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ORIGINAL ARTICLES.

DIAGNOSIS OF ORGANIC DISEASE OF THE HEART.

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SECOND ARTICLE.—CLINICAL.

IN my first article I dwelt at some length on the symptoms and signs which lead intelligent laymen, and physicians also, when noticing them in themselves, to believe they are suffering from organic disease of the heart, and endeavored to demonstrate the fact that in the majority of cases where the attention of the patient was first called by his symptoms to his heart, that organ was free from disease, and that the symptoms were owing to derangements of the nervous system, resulting from mental overstrain, with insufficient rest and recreation, or to the indiscreet use of stimulants, such as alcohol, tobacco, tea and coffee, or to derangements of organs remote from the heart, such as the uterus, the ovaries, the stomach and the liver.

During the past few years I have been consulted by a large number of physicians, male and female, from different parts of the country, who have been led to believe from symptoms which were dwelt upon in the article which appeared in the June number of the TIMES, that they were suffering from organic disease of the heart, the object of their visit being a thorough physical examination.

I have made a careful record of these cases, including the history, and the result of my examination. In the present article I propose to give extracts from my case-book, and shall confine myself to cases occurring in physicians, where, although there were many of the symptoms, there were none of the positive signs of organic disease. Later, I shall follow these by the relation of a few cases occurring in the laity, some simulating organic disease of this organ, and others where there were positive evidences of organic changes.

CASE I.—A physician of middle age, five feet ten and one-half inches in height and weighing 260 pounds, consulted me, complaining that "his heart worried him." On being questioned as to the cause of his anxiety, he said he had an *intermittent pulse*.

The history of his case was as follows: His habits had always been temperate, and he had considered himself a healthy man till recently. Had never suf-

fered from inflammatory rheumatism or other serious illness. His family history was good, and his ancestors long-lived. Of late years had been troubled with dyspepsia, pharyngeal and laryngeal catarrh, and for a year past had noticed an occasional intermission in his pulse; slight dyspnoea on over-exertion, but no more than could be expected in so stout a man. Is, and has been for years, over-worked, long hours, and is frequently called up in the night. Eats very heartily, and largely of meat. Drives through his professional rounds, and has no time or inclination for physical exercise. Spirits generally depressed; has a daily movement of his bowels, and his urine is normal as to quantity, although high-colored. No examination had been made previous to his visit.

Physical Examination.—Remarkably stout for one of his height; abdomen large and bowels distended with gas; respiratory movements good; lungs normal in every respect. Heart, liver and spleen dullness normal.

Heart sounds pure with an occasional lost beat. Sphygmographic tracing showed a remarkably feeble cardiac impulse, with a missing beat in about every twelve; slight degeneration of the upper border of the cornea, more marked on the right side.



TRACING SHOWING LOST BEAT.

Vital capacity of the lungs 300 cubic inches, being nearly 50 cubic inches above the average of his height. Examination of the urine, taken at mid-day, showed a specific gravity of 1032, a small quantity of sugar and an absence of albumen.

Comments.—In this case, the immense vital capacity of the lungs, the normal breathing sounds, the normal area of cardiac dullness, and the absence of cardiac murmurs, enabled me to diagnose a total absence of disease so far as the heart and lungs were concerned, notwithstanding the intermittent pulse.

The patient was suffering from neurasthenia, resulting from over-work, loss of sleep and deranged digestion. This condition of the nervous system would account for the functional disturbance of the heart, the depression of spirits and possibly for the glycosuria, although the latter may have been owing to hepatic disturbance resulting from over-taxation of the digestive organs and too little physical exercise,

which latter would also account for the obesity. In my examinations of the urine of patients suffering from nervous prostration it is almost the rule to find sugar in small quantities, although there may be an absence of polyuria. In this case I was satisfied that the trouble arose entirely from the indiscretions acknowledged. I advised less mental work, a proper amount of sleep, less food, and horseback exercise. One year from the date of my examination, I saw my patient, and found him greatly improved in health. My directions had been carried out, so far as was consistent with the duties of a large practice. He had lost a large amount of flesh, the action of his heart was better, and his dyspeptic symptoms and pharyngeal catarrh had passed away. Later, he writes me that he has lost in all 37 pounds of flesh, is doing hard work, is free from dyspeptic symptoms, and now would not know that he has a heart—in fact, is in the enjoyment of perfect health.

Case II.—Physician in active practice, single, aged 30. Family history good; father and mother both living, aged and healthy. A remarkable feature in connection with his family history, was the fact that his father and mother and two sisters, although in the enjoyment of good health, all have intermittent pulses.

The patient's story was as follows: Till five years ago was in the enjoyment of perfect health; always temperate in his habits. During the latter period had suffered in winter from cough and hoarseness, aggravated by talking and singing, no expectoration. From any excitement has intermissions of his pulse, is conscious at such times of the beating of his heart, and can tell by a peculiar aura when the heart-beat is lost, and then has a desire to take a long breath.

On waking in the morning and before rising, has bounding and intermissions of the pulse, which pass off on rising from bed and exercising. Thinks constantly of his heart and lungs, and his supposed serious illness causes him great and increasing anxiety. If his mind is absorbed in business or professional matters, he forgets for the time about his heart. Sleeps well, has a good appetite, is a hearty eater, and digests his food without perceptible difficulty. Bowels always regular, urine normal in quantity, specific gravity 1018, does not contain albumen or sugar; never has had inflammatory rheumatism, is not short of breath on exercising.

Physical Examination.—Moderately well-nourished. Height five feet ten and one-half inches; weight 140 pounds. Vital capacity normal—250 cubic inches. No signs of pulmonary derangement past or present. Area of cardiac dullness normal. Apex in fifth interspace within the nipple line. Heart sounds pure, but quite a frequent lost beat was noticed during the examination, and the patient

was conscious of each of these intermissions by an unpleasant but indescribable sensation which was felt over the entire upper portion of the body. The uvula was elongated and the laryngoscope revealed a slight laryngeal catarrh. Area of liver and spleen dullness normal.

In this case, although there was great and, to the patient, alarming functional disturbance of the heart, there was a total absence of organic disease of that organ, or of any of the vital organs of the body.

The trouble was undoubtedly owing to some obscure derangement of the nervous system, which was probably hereditary. If he had had no anatomical or physiological knowledge, his symptoms would have given him no uneasiness, and probably would have been like his parents' and sisters', less severe. His habits were so regular that I could advise no change, unless to marry.

I removed a portion of the uvula, ordered one dose of phos. 3 each day, and assured him of the perfect soundness of every organ which could be studied by physical examination.

In this case, the assurance of absence of organic disease was a perfect relief to the patient, the amputation of the uvula, with the daily dose of phosphorus, entirely cured the catarrhal difficulty and the cough. The doctor writes, under date of July 30, 1884, that a gradual improvement followed his visit and that in a few months he called himself well, although he had never been entirely free from that irregular action of the heart. Two years have passed, but he has had no return of the cough, and has ceased worrying about his lungs and his strangely-acting heart.

CASE III.—A physician in active practice. Had always enjoyed good health till six months ago, when, after a long period of hard work, with scarcely a night which was not disturbed by a professional call, was roused shortly after retiring for the night, and as soon as he had lost consciousness, by a sudden start, and before he was thoroughly awake, was seated upright in bed. These paroxysms were repeated nearly every night and whenever he took a nap in the day time. After the paroxysm was over he would generally go to sleep and rest quietly without dreaming for the balance of the night.

A month prior to his visit, one of these starts occurred with intense fright and associated with it was an acute pain in the region of the heart, with a sensation as though it had stopped beating. He was naturally terribly frightened. He could feel every beat of his heart without placing his hand on his chest, and on counting his pulse he found it running at the rate of 150 a minute, weak but perfectly regular. This attack was followed by a profuse perspira-

tion, sense of faintness and great exhaustion. The pain in the region of the heart disappeared, to return again in a short time. He described it as being sharp, as if a knife was being thrust into him, aggravated by a deep inspiration and involving the left shoulder and arm to the elbow. His body became cold, and the pulse gradually fell from its terrible rapidity till it reached forty to the minute.

After the paroxysm he fell into a profound sleep, which lasted for ten hours. Several of his friends tried to rouse him, but without avail. They said his sleep seemed perfectly natural, and when he woke he was refreshed but very weak.

For a week he was unable to attend to his professional duties. His pulse gradually rose to fifty-five to the minute, and continued at this rate for ten days. From that time on it has run from sixty to sixty-five, but from any excitement will suddenly rise to one hundred to the minute but will be perfectly regular.

At the date of his visit he could feel his heart beat in the praecordial region, and in his head and arms. Upon crossing the knees, the popliteal artery pulsates with a force sufficient to elevate the foot with every impulse. Has no sense of debility, and at times feels exhilarated. Has had no paroxysm since the severe one which occurred one month ago. "Is worried about the condition of his heart." Habits are, and always have been, perfectly correct. Smokes on an average three cigars a day, does not drink to excess, is not short of breath on exercising or ascending stairs.

On physical examination, the apex of the heart was found in the normal position. There was no increase of the area of cardiac dullness, and the heart sounds were pure though feeble, and there was no murmur.

The lungs, liver and spleen were normal, and he showed a vital capacity of 270 cubic inches, about thirty-five cubic inches more than the average for his height. Urine normal in quantity, does not contain albumen, but has a specific gravity of 1028, with a trace of sugar.

I unhesitatingly pronounced the heart perfectly sound, but there certainly was a serious derangement of the nervous system, the result of over-work and loss of sleep, which was sufficient to account for all of his symptoms.

I urged rest and recreation, moderate diet and the avoidance of stimulants of every kind. Under date of September 5, 1884, over two years having elapsed since his examination, he writes: "After my visit to you I took a few weeks' vacation and recovered beautifully without medicine and with no special care, nothing but rest of mind. During the past two years have had occasional returns of the same train of symptoms, sugar in the urine, etc., never so severely,

however, as in 1882, and have recovered by a little care and rest. This year, in June, with the onset of nervous symptoms, I stopped smoking, the nervous symptoms subsided rapidly, and I have never been so strong in any summer before, although I have been working hard generally late into the night; therefore, I think the few cigars I had been smoking were a serious cause of enervation. I am no longer anxious about myself and feel perfectly well."

CASE IV.—A young physician, who had learned of the existence of a cardiac murmur, which had been to him a source of great anxiety. Had never had any serious illness; no rheumatic history, but had, as a lad, been a great athlete, frequently taxing his strength to the utmost at the gymnasium and in rowing. From that time on the action of the heart had been forcible but regular. Is at times conscious of every cardiac impulse. On two occasions, while in a crowded assembly room, has had a sensation as if he were going to faint, followed by violent action of the heart.

For the last two months has not been feeling well, and found it necessary to give up work. For some time previous to this had been studying hard, in addition to his professional labors, which were arduous. Has never been short of breath on exertion.

Physical Examination.—Height five feet eight inches. Vital capacity about normal (220 cubic inches). Well nourished, lungs, liver and spleen normal.

Heart.—Apex in the normal position, area of cardiac dullness normal. Sounds at the apex, the tricuspid and pulmonary orifices pure. In the second intercostal space to the right of the sternum, a soft blowing murmur is heard with the second sound of the heart, which is otherwise normal, being distinct and valvular. This murmur is peculiar in character from the fact that it appears to continue after the second sound has ceased, but it accompanies the second sound. There are no murmurs in the neck, both sounds being distinct and pure.

Pulse at the wrist full and bounding, perfectly regular, and while undergoing the examination eighty to the minute.

Comments.—In this case, from the fact of the area of cardiac dullness being normal, and the apex being found in the normal position, and from the absence of evidences of pulmonary disturbance, we must positively exclude serious heart lesion, notwithstanding the murmur which has been constant for years. If there were serious valvular derangement there would certainly be a change in the size of the heart, which there was not. It must be remembered that this man, when young, had overstrained in athletic sports. It is possible that as a result of this straining there was a dilatation of the root of the aorta, or

a slight rupture of one of the segments of the aortic valve, which had generated a murmur, but which otherwise had not inconvenienced him. If he had been unaware of the existence of the murmur the attacks of faintness would have given him no uneasiness, for they are common enough from other and trivial causes. The violent action of the heart was undoubtedly owing to functional disturbance, probably of dyspeptic origin.

Inorganic heart murmurs sometimes exist, for which no satisfactory explanation can be given. Gee says, "A murmur, diastolic in time, loudest in the aortic region, is sometimes associated with nothing more than rigidity and dilatation of the aorta; the valves being healthy." And again, "numerous cases have been observed of an aortic diastolic murmur heard during life, not to be explained by any lesion of the aortic valves found after death. In all these cases, however, the aorta has been unnaturally rigid, if not dilated. Wherefore, it seems that a murmur in all respects like that of aortic regurgitation, may be produced immediately above the valves."

Under date of July 30, 1884, over two years having elapsed since the examination, the doctor writes, "I have enjoyed quite good health ever since I saw you, about a year and a half ago. For a period of, say, three weeks I suffered from time to time with palpitation of the heart, but have no reason to think it was other than functional trouble, for I was very much worried at that time, was troubled with indigestion, which was an element in the case. I think the only subjective symptoms I have noticed and can complain of is the abnormal impulse of the heart. The position of the apex is unchanged—in the fifth interspace, within the nipple line."

ON THE TESTS FOR BACTERIA.*

BY WALTER Y. COWL, M.D., NEW YORK CITY.

OF a bacterium, as of every living organism, the best tests of existence as a living organism are growth and self-motion.

In respect of most plants and animals, the observance of form and of growth is easy, whilst the same may be said of self-motion in those individuals possessing it.

When we come, however, to organisms such as bacteria, which are not to be individually observed by the unaided eye, we have a less simple and more delicate problem.

The first fact impressing one is that their aspect is less sure. We not only feel, however, that their aspect is less sure, but we now know it. This lack

of patency, as has been abundantly shown, both by photography and by recent discoveries in optics, while partly due to imperfections still remaining in our best and most recent lenses,* is chiefly due to the fact that our perception of bodies so fine depends not simply upon magnification, but upon a newly-recognized and fundamentally distinct kind of vision; a form of vision which becomes necessary in order to distinguish all objects or appearances less than $\frac{1}{2500}$ inch in diameter; or, necessary, in other words, for the discernment of all forms of bacteria.

This fine 'microscope vision,' as it is called, which only comes into play in viewing the more minute objects and details seen under the microscope, has been shown by Prof. Abbe, of Jena, to require lenses of wide angle of aperture and unusual perfection of make in order to give truthful pictures of the objects looked at. The theory and its demonstrating proofs show, that when looking through a microscope at an object or detail less than $\frac{1}{2500}$ inch in diameter, in other words at anything smaller than the naked eye could perceive, we do not see it, as with larger objects, by a direct recombination of the transmitted images, but by a combination of certain spectra, the result of diffraction of light by the fine edges or lines of the object.

If the objective does not take in a sufficient number of the spectra produced by the fine objects or details, or does not properly combine them, the picture is more or less false.

This is, beyond question, one reason why bacteria are not well observed by many lenses sufficiently good for other work.

It is not, however, the chief reason. All who have used the microscope with sufficient magnification must know that ordinary lenses of medium power, under favorable conditions of the illumination, and with a close and small stop or diaphragm, will show with surprising distinctness objects of much less size than the limit mentioned.

The main reason, then, for the difficulty in observing bacteria or for their non-perception, as bacteria, must reside in the bacteria themselves, and this can be easily shown to be true.

Observing a bacterium in water or urine or other fluid of light specific gravity, at a magnification of 600-800 diameters, with a good lens of at least 100° angle of aperture, under favorable conditions of the illumination, with a small close diaphragm and the exclusion of all side light from the observing eye (the other eye being shielded), it will be readily seen that the organism is surrounded by a *halo*, which varies in intensity on turning the fine adjustment screw. This indicates the presence of some surrounding material.

* A paper presented at the Semi-Annual Meeting of the Homeopathic Medical Society of the State of New York, Binghamton, Sept. 9, 1884. Published by permission of the Society.

* It is to be remembered that the lens of to-day is not to be compared with the lens of twelve years ago.

That there is such a material, and that it is viscid, is further indicated by the frequent aggregation of bacteria in masses, upon the verge of which will be seen individuals struggling to free themselves and finally succeeding in doing so.

This viscid envelope, probably increasing in density from without inward toward the body of the bacterium, would markedly interfere with a sharp picture of the body of the organism, when viewed, as we have seen it must be, by fine microscopic vision.

Again, everyone who has magnified bacteria in water or other light liquids to more than four hundred diameters, must have noticed that upon changing the focus the 'color' of a bacterium under observation changes from black to dark yellow or *vice versa*, and that it changes suddenly and changes markedly.

This indicates, just as in the case of an air-bubble, a crystal, a bit of metal, or a piece of hair, that the object differs greatly in specific gravity from the medium by which it is surrounded.

The fact that the greater the difference between the density of the object and the density of the medium, the poorer the microscopic view—whenever such depends upon the fine microscopic vision—constitutes a further reason for the elusiveness of these smallest of living things.

We can now see altogether how and why it is that when we look at bacteria through the microscope, whether with a poor, a medium or a first-class objective, the organisms are so hazy in their outline and so obscure as to their interior detail.

With reference to the observance of self-motion in bacteria, two sources of error may be mentioned.

Brownian movement, consisting of a dancing motion of particles of substance less than $\frac{1}{100}$ inch in diameter and insoluble in the medium employed, is not to be distinguished from the fine movements of bacteria with powers of less than 400 diameters, except under very favorable circumstances.

The same may be said of the distinction between the progressive movement of many bacteria and the movement of fine particles by currents in the medium.

Both currents and Brownian movement occur particularly when media of different densities are mixed or when soluble matters are added to the medium.

The jar of adjustment in focusing or even the observation of particles of substance heavier than the medium upon an inclined stage, is apt to cause disturbing currents.

In other words, the positive observation of self-motion in bacteria depends upon the skillful use of the microscope with the higher powers thereof.

We may then make some excuse for an individual who fails to distinguish between a bacterium and some other minute object by a simple microscopic examina-

tion, and we furthermore perceive the necessity of submitting the various questions which may arise with reference to bacteria, to other tests than mere observation in a fluid medium under the microscope.

We perceive this necessity more especially, perhaps, when we find some, who, astounding as it may seem, claim to be prepared to deny the existence of organisms such as bacteria, and further proceed to assert that all bodies supposed to be bacteria are but forms of disintegrating fibrin, not hesitating to declare in support thereof that "all organic matters contain fibrin," and thus dispose of the value generally accredited to 'cultivation' as a means of study and of proof by bacteriologists.*

Owing to the acceptance, by the scientific world at large, of the fact that *there is* a class of organisms known as bacteria, the various tests for them pertain now mainly to the distinction of the various kinds of these organisms from each other, rather than to the fact of the existence of such forms of life.

As there are those, however, who deny the very existence of bacteria, whilst opposing the germ theory of disease, it may be worth while to seek some positive test, if such there be, that shall indubitably prove the fact of the existence of bacteria, without reference, of course, to their power or lack of power to cause disease.

Such a positive test I believe to be caustic potash, which may be used in a solution of from two to more than twenty per cent.

A two-per-cent. solution will dissolve fibrin, coagulated albumen, caseine, and all tissue except bone, but will not dissolve bacteria.

A solution composed of four parts water and one part pure stick potash—a solution which is strong enough to completely disintegrate any gross organism and to dissolve it, with the exception of the earthy matter of the bones or shells—will refuse to obliterate bacteria, as the following experiment will show.

If a clear solution of gelatin be exposed to the air for a few days it will become cloudy and so remain for several weeks, when a light colored sediment will be found to have subsided, leaving the supernatant fluid clear and devoid of its former viscosity.

At any period of time after the appearance of the cloudiness, the fluid or sediment may be examined with the microscope and will be found to contain many minute bodies which it did not contain when clear, varying from the .005 inch to the .00005 inch in diameter, partly in aggregated masses containing from a few to many hundred individuals, and partly free.

Most of those that are free, and some of those in the aggregations, will be discerned to be in active

* *Vide "Cultivation of Bacteria and Fibrin," R. R. Gregg. The Medical Advance, June, 1884.*

motion of a quivering and often also of a sinuously progressive kind.

If the process of decomposition, however, be complete, or if the vessel has been tightly closed for a time, the large majority or all of the bodies will be without motion.

A portion of the sediment may now be mixed with four times its bulk of a twenty per cent. solution of caustic potash and either set aside for a few days for thorough action of the reagent, or, more quickly, boiled for a couple of minutes.

It will now be observed that the mixture has not lost its opacity, and on standing at rest for a time will deposit an abundant sediment: in other words, the potash has not dissolved the bacteria.

If now a drop of the mixture or sediment be viewed under the microscope, it will be found to contain the same bodies as before and now, in many instances, in active motion. The number of organisms will be found diminished, but those that remain are perfect. Beside the bacteria remaining, more or less débris will be found.

Whether those destroyed by the potash are dead or in some vulnerable stage of life is of course uncertain, but the fact remains unequivocally that treatment with a solution of potash more than strong enough to dissolve not only fibrin in any form but the entirety of a human being, calcareous salts excepted, has not sufficed to destroy, but on the other hand, has rendered active, certain of those organisms which, from lack of food, from poisoning with the effete products of their own life or from lack of oxygen, had become quiescent.

The test barely needs comment. We may merely say with reference to the microscopic observation, that it requires a good objective of 100° or more angle of aperture and some skill in microscopical manipulation.

Other tests of the existence of bacteria are as convincing, or perhaps more so, to those who do not believe that fibrin is all-pervading.

To some the simple potato test is sufficient, which consists in exposing a freshly-cut potato to the air for a few hours or touching the fresh surface with a pin previously dipped in some decomposing matter, and then placing it under an inverted glass until spots of discoloration appear upon it, when a microscopic examination of matter from some of these spots will reveal the presence of organisms, differing in shape, size, power of motion, etc., as do the spots in color.

The most complete test, perhaps, is that of Dr. Koch, which consists in coating a glass slide with clear moist gelatin and pricking it at points with a pin previously dipped in decomposing matter, such as urine or blood.

In a day or two opaque spots will appear about the

points, which on microscopic examination, will reveal myriads of connected organisms.

We have here, then, an evidence of that growth, which to any but a prejudiced eye must seem the best test of the existence of bacteria as living things.

CLINIQUE.

MAGNETO-THERAPEIA.

BY J. A. CARMICHAEL, M.D., NEW YORK.

FIRST ARTICLE.

By this term it is designed to express the application of magnetic currents to the cure of disease. Among the most intractable diseases which the physician encounters, certainly there are none that tax his professional skill, for their relief and removal, more thoroughly than the different forms of paralysis, whether they be of a local or of a general character. In conjunction with them may be named the varieties of neuralgia that we see darting here and there through the quivering frame and extorting from the sufferer cries of anguish as the paroxysm rends and tears him.

Paralysis—(*παραλύω*, to loosen, relax)—consists, as we know, of the abolition or modification, accordingly as it is complete or incomplete, of the power of motion, or muscular contraction, in which also the function of sensation may be involved. Whence comes this abolition of power? Is it because the individual muscular fibrilla, which by their aggregation constitute the volume of the muscle, are of themselves in an inert condition, from any loss of their own intrinsic powers; or is it that, by some fortuitous intervention, they have been bereft of a vital stimulus which animates and energizes them? Take, for example, that interesting form of paralysis known as aphasia—(*a*, neg., and *φάιρω*, to speak)—characterized by loss of articulate speech, with its frequently attendant phenomena of aphemia and amnesia, loss of words and memory. Heretofore in the history of diseases of the brain, the point of lesion producing this result was unknown, or only surmised, but now, in these days of more accurate and searching investigation, and a more critical localization of the brain, it has been found to have its home in "Broca's convolution," the third anterior cerebral.

What has come to pass here to silence speech, to blot out language and memory, and to cover the patient as with impenetrable darkness? Is it an anæmic or bloodless condition of the brain? Is it an embolus, or choking of the vessels, by which nutrition is prevented? or an extravasation of blood from undue congestion, whereby a portion of the brain substance has been compressed, or is it a devitalization

of the ultimate brain cells, which we believe to be the *potential factors of brain power*, whether mental, emotional, physical, or other, whereby their functional transmissions are suspended or arrested? The same argument may be applied to other forms of paralysis, viz., hemiplegia, hemianaesthesia—cerebral and hysterical—amblyopia, achromatopsia, hemiopia, brain affections characterized by mental aberrations. Invasions by hemorrhagic centres of different portions of the internal capsule and its ganglionic masses, viz., the thalami optici, nuclei cunctati and glandulae lenticulares of the corpora striata, the gray layers of the Island of Reil, with many other brain localities that might be mentioned, as also paralysis resulting from invasions of the spinal cord by myelitis, sclerosis, ramollissement, effects of shock, etc., etc., inducing hemiplegia, paraplegia, locomotor ataxia, sciatica, paralytic conditions of the pelvic and genital organs, etc.

With this cursory review of some of the many unhappy conditions resulting from paralysis, we reach the substantial fact that paralysis is present before us in one or the other of the above forms.

Let us pass rapidly in review the various modes of treatment as adopted by the profession at large. What say the disciples of Hippocrates, Galen, Sydenham, Paracelsus, Brown, Broussais, and a host of other worthies of the olden time? If congestion be supposed to be the cause of the paralysis, the patient is delivered over to the lancet—now happily abolished since the boon of aconite—to the scalding, racking purge, the stinging leech, the scarifying cup, the drawing blister, the incandescent iron, the moxa, the seton, the chilling ice-bag, the vise-like bandage, etc., etc. Should he survive all these, and be still, as is most likely, held in the cold embrace of paralysis, then the changes are rung upon iron, quinine, strychnine, etc. Next comes the truculent onslaught of the professional rubber, shampooer, manipulator, and finally electricity in the form of faradization, thermo-electric baths, and others too numerous to mention, and so on to the end of time, or to the end of the patient. Should the medical attendant be imbued with the principles of Hahnemann, then the array of remedies ranging onward from aconite to zincum will be administered for his behoof, and, at last, to give way to the use of the same agent as adopted by his brethren of an opposite faith, electricity. And now, of electrization, or, more properly, magnetization. Before discussing the *rationale* and mode of its operation and application to the disease before us, it would be well to look a little into the intimate fundamental structure of the brain, and see if we can there discover any elements of that structure whose functional properties can be supposed in any way to resemble what we know of the transmis-

sion of magnetic currents. What means this nest of cells in the cortical structure of the brain, now known as the seat of functional activity, arranged in five-strata type, differing in shape, viz., spherical, pyramidal, stellate, spindle-shaped, etc., and communicating with each other by unipolar, bipolar, tri-polar and multipolar antennae, so to speak?

The histological interpretations of the cells of the brain, and especially of those of the nerves of special sense, optic, auditory, olfactory, etc., by the most advanced scientific investigators in microscopy, such as Kolliker, Meynert, Hitzig and Fritsch, Deiters, Virchow, Wagner, Ferrier, Charcot, Beale, Rokitansky, Garlach, define them as being composed of a substance, "Substantia Gelatinosa," possessing nuclei and nucleoli of an exquisitely intense vitality, by which functions such as those of vision, olfaction, audition, etc., are performed.

Is it possible to accredit the accomplishment of such powers as these, whereby all that is beautiful in the heavens and on the earth may be seen and enjoyed, to dull, inert matter? Is there no *vis insita*, no hidden force compelling these manifestations? And thus we might go on, exploring all the portions of this wondrous structure, conjecturing their mysterious properties, mental, emotional, moral and physical, and, in the end, what have we to offer in solution of their inscrutable mysteries?

Again we ask, do we know of no agency by whose instrumentality these functions may be initiated and maintained throughout the human organism? Why are these bodies, the cells, found so universally everywhere in organic life? Why are they especially abundant in those portions of the brain from which emanate the functional activities of this marvelous part of man's organism? Why are they imperfectly developed or absent in the creature occupying a lower and less intellectual grade, though wearing the human form? By the teachings of comparative anatomy also, the same incomplete and imperfect development is revealed. Again, why do they abound in those centres of the great nervous system which preside over the vital functions of respiration, circulation, digestion, nutrition, secretion, etc., and in all their tributary nerves? Is it not because they are the *potential factors* of the functional activity necessary to the constant fulfillment of these vital energies? Whence comes this potentiality? The physiologist will say, from the inherent vitality of the cell and its constituent elements. Is there any satisfaction in such a solution as this? We answer, no! The subtle agent performing these wonderful phenomena is magnetism, and magnetism alone. We have seen it creating worlds, we have seen it holding the heavenly bodies in their allotted spheres, we have seen it in its

places of abode, celestial and terrestrial. Why should it not dwell in a human habitation?

Then assuming it to be the agent for the development and propagation of the influences of the nervous system, and for dispensing the vital activities of the body, why, when those activities shall have been prostrated or arrested by the encroachments of disease, may it not also be the agent for their resuscitation and reinvigoration?

By the pernicious effects of disease, which has been introduced into the system, paralysis of function has ensued, the cells have had their avenues of communication with each other, and with the various organs of the body, intruded upon, perhaps occluded, the transmission of cell and nerve power fails to reach those parts to which they are naturally destined, and because of this untimely interference paralysis ensues, and where there once was vigor and energy we now see torpor and advancing decay.

What can restore? What can heal? Can iron introduced into the blood call those lifeless cells and their, so to speak, telephonic messengers, the nerves, into a renewed vitality? Will strychnine awaken a responsive muscular activity when cells and nerves are apathetic and dead? Too often, no! Finally, in connection with paralysis, let us consider a supposititious case, in which the patient is affected with all the symptoms indicating extravasation of a hemorrhagic centre within the internal capsule of the brain. If the lesion be limited to the gray ganglia, common cerebral hemiplegia will result. This may be distinguished from cerebral hemiplegia involving the cortex, in which motor paralysis is the peculiar feature. Hemiplegia from lesions confined to the gray ganglia, is generally transitory, but if a hemorrhage should break in upon the ventricular cavity, early contractions or epileptiform convulsions almost necessarily ensue, and, if not averted, a fatal termination is to be apprehended.

Should the patient survive the attack, what is his condition under ordinary circumstances? Generally one of prostration and confinement to his bed for an indefinite time, and the efforts of the physician are expended with the hope of restoring the lost energies and powers by one or the other of the means already cited, and finally, when the usual remedies have been tried and found wanting, as a forlorn hope, the vitalizing stimulus of ordinary electricity is employed, but with only a feeble response from the stricken brain and the palsied body, and but for the timely intervention of benignant science, which now offers resuscitation and relief from the oppression which fetters him, the hapless patient must be content to occupy the chair of the despondent paralytic, and to drag along the slow length of life's chain wearily and hopelessly. Where shall he look for succor and re-

lease from the bonds which hold him as in a vise? We answer, to the gentle and *continuous* currents of magnetism, which, by the inventive intelligence of man, are now made to penetrate and interpenetrate the body with a genial and grateful aura, and to insinuate themselves in healing flow through its "gates and alleys," whereby, not only the whole nervous organism, with its cells, its ganglia, its projection system of nerves, afferent and efferent, receive an impelling influence akin to that which they themselves dispense when in health, but the obstructing hemorrhagic centre is, by the quickening of the processes of absorption, removed. The life-giving blood currents too, replenished by the subtle magnetization of their corpuscles, and their attracting and repelling polarities increased, now give renewed vigor to the circulation, and the refreshing stream awakens into new life the useless member and the palsied sense. Thus we might go on telling the gloomy story of the effects of paralysis from lesions of other portions of the brain, whereby motion and sensation are lost, faculties distorted or blotted out, and perversions and alienations of the mental and moral senses occur to excite and shock the sympathies of friendship and affection. In this connection it would be consistent from an anatomical, physiological and pathological point of view, to recall the different forms of neuralgia, from the stinging, darting, agonizing tic douloureux, to the wearing, paralyzing sciatica. Suffice it to say, that numerous evidences of the healing properties of *continuous* currents of magnetism, where all other means have failed, have come under our observation, and many have been made to rejoice in a happy deliverance from the torments of this disease, whose only prototype may be found in the fable of the unhappy Prometheus, chained to the rock, and rent and torn by the unrelenting vulture.

We had reached this point in the writing of this paper, when our attention was called to a lecture delivered before the Alumni Association of the College of Physicians and Surgeons, by Prof. John C. Dalton, in whom we recognize a most eminent authority, in all subjects pertaining to physiology, from which we propose to make copious extracts, not only because of the respect due to the opinions of Prof. D., but because of the satisfaction with which we read views of the treatment of disease—which, unfortunately, he confines to diseases of the nervous system—so similar to those already expressed in this paper. His subject was "Galvani, and Galvanism in the Study of the Nervous System." We quote:

"If any one department of physiology and therapeutics is now distinguished by a special activity of investigation and growth, it is probably that of the nervous system. A very large part of this advance has been made by the application of electric stimulus,

and is due, directly or indirectly, to the experiments of Galvani, nearly one hundred years ago, on the nerves and muscles of the decapitated frog. In the first series of Galvani's experiments, he confined himself to the use of an electric machine. In the second, to the borrowing of the subtle fluid from the clouds, in imitation of Franklin. In the third series, animal electricity was also employed, its presence, however, being only suspected by Galvani, yet the result being recognized by him as containing the substance of a new discovery. He was perfectly clear as to the prime importance of the truths which he had demonstrated, and there are curious surmises in his book as to their possible future value in the treatment and cure of nervous diseases. Some of his remarks sound almost prophetic. 'In regard,' he says, 'to the cure of paralysis, I see that it is a matter of great uncertainty, for it is not easy to say whether the disease be caused by a degeneration of structure in the nerves and brain, *or whether it is due to an obstruction of the supposed electrical circuits, by the deposit of some non-conducting material.* But, perhaps,' he adds, 'the whole matter will, some day or other, be cleared up by further practice and experience.' Galvani was followed by Volta in the pathway which he had opened; Volta not only verified the result of Galvani's experiments, but threw new light upon the immediate cause of their phenomena. He determined the amount of electrical stimulus capable of producing convulsions in the muscles of the frog.'

Again: "Experimenters found that when a current of electricity was transmitted through a muscular nerve, it was the change in the electrical state of the parts, rather than in their actual condition, which operated as a stimulus and provoked contraction. The next epoch in the history of nervous physiology was found by the discovery, in 1822, due to the labors of Sir Charles Bell and Magendie, of the distinction between the motor and sensitive properties in the two roots of the spinal nerves, indicating a general plan of arrangement for the nervous system throughout the body."

"The discovery of the reflex action of the spinal cord, by Marshall Hall, followed. Then came the development of knowledge as to the influence of the nervous system on the organs of circulation; then the determining the rapidity with which nervous action is transmitted through the motor nerves, by Helmholtz, in 1851. Next, the localization of function in different regions of the brain. Then the vaso-motor nervous system, which touches on one of the most important points of pathology as well as on the most important functions of health. The connection between secretion and blood supply, the mechanism of congestion, the dependence of external disturbances of the circulation on disease of in-

ternal parts, the red cheek of pneumonia, the hectic of pulmonary phthisis, and the existence of nervous centres in the cerebro-spinal system, where these changes are controlled by reflex action, are all made capable of investigation by knowledge which has been derived from this source. All the variations in the effect produced by electric stimulus of different kinds and intensity, the comparative influence of direct and diverse currents, the exhaustion of the nerves by continued stimulation and their recovery by repose, together with many other similar conditions, are indispensable stages in the progress of discovery, and are the fruit of many intermediate investigations. But each series depends for the possibility of its existence, on another which has gone before, and they all have their origin in a continuous line of descent from the experiments of 1789, in Galvani's laboratory at Bologna."

We cannot refrain from repeating our satisfaction at the conclusions reached by the distinguished physiologist, from whose lecture we have so fully quoted. At the same time, it may be permitted to add that in his observations upon the effects of currents of electricity upon the nervous system at large, and their secondary effects upon muscular contraction, upon the circulation, upon secretion, absorption, excretion, respiration, etc., he failed to recognize, or at least, to express the idea that the transmission of currents through the nerves and nerve centres was not merely to induce their action by the stimulus conveyed thereby, but that through the transmission there was a renewal of a stimulus to the weakened or exhausted nerves, which stimulus is native and congenital to nerve-force itself. What, for example is meant by the term "vaso-motor"? Its interpretation is vessel-moving or vessel-contracting. What causes the contraction of the vessels but the stimulus, conveyed along the "nervivasorum," or nerves of the vessels, especially those proceeding from the ganglia of the great sympathetic, and ramifying infinitesimally among the coats of the vessels? Place any obstruction, by the intervention of disease or otherwise, upon the flow of these nerve currents, and of their stimulating effects upon the vessels, and what is the result? Vaso-motor stasis, delay in the blood currents, congestions, vascular and capillary, interference with the vital blood changes from venous to arterial, and *vice versa*, whereby congestions, irritations, inflammations, with all their destructive sequelæ ensue, modifications and perversions of function, causing delay or arrest of the important functions of secretion, absorption, excretion, etc., and disease becomes fully established in the system. Why? *First.* Because of the interruption of indispensable cell, ganglionic and nerve stimulus. *Second.* Because of the interruption of indispensable blood circulation, arte-

rial, venous and capillary. *Third. Because, and most important of all, of the interruption of indispensable electric, or, more properly, magnetic force,* which compels the due performance of all these functions by its continuous presence in health, and which leaves them unperformed, with all the dire consequences proceeding therefrom, because of its absence in disease.

We have spoken of continuous blood circulation as a necessity for the preservation of organic integrity. Are there no other changes affected by magnetic forces? Not only is the circulation of the blood kept continuous and steady, but another most important phenomenon consists in the *constant magnetization of the corpuscles of the blood*, whereby its purification is insured.

The foci of disease are invaded by the healthful currents, the organs feeling their stimulating influences, functional activity is re-established and health restored. Prof. Dalton spoke of "the exhaustion of the nerves by continued stimulation and their recovery by repose." In that he was, no doubt, perfectly correct, for it is well known that by the usual mode of administering electricity by batteries the patient is subjected to a series of shocks, and the reaction must, of necessity, be exhausting and depressing. But, it will be remembered, that we have elsewhere in this paper, spoken of *the gentle and continuous currents of magnetism*, by which it is meant to indicate the *constant intromission* into the body of *magnetic currents*, which will not only *not shock*, but yield to, the nervous masses, to the cells, to the ganglia, to the nerves, to all that constitutes the great nervous system of the organism, a pabulum, so to speak, for their appropriation, by which their exhausted energies and powers may be nourished and recuperated, and the "repose" will be felt and enjoyed in the restoration of their natural and familiar functions.

One word more in consideration of Prof. Dalton's able and interesting lecture. In the first part of it he speaks of the application of electric currents to the cure of "nervous diseases," seeming to confine their effects to that class of diseases alone, but in the latter part of his discourse he adverts to such phenomena as the motor and sensitive properties of the spinal nerves—Sir C. Bell—their reflex activities—Marshall Hall—and finally, in this connection, he points with especial emphasis to the great sympathetic and its physiological influences in promoting health, when in the uninterrupted exercise of its normal vaso-motor powers, and also to its property of determining pathological conditions, such as congestions, irritations and inflammations, with their destructive effects, as also the modification or arrest of the important functions of secretion, absorption, excretion, etc., with all their untoward consequences following in *neces-*

sary sequence. If such consequences as these can result from "nervous diseases" then may it not be said that they, the so-called nervous diseases, exhibit pathological phenomena, many of which may be cited as characterizing almost every disease contained in the nosological record and of which there is any knowledge whatsoever? This being so, and electricity being regarded by him as an agent, the knowledge of whose curative power for diseases of the nervous system dates back as far as 1789, and this nervous system being, according to him, the great supervisory power controlling all the vital functions of the body, by whose well or ill performance health is maintained or disease is permitted to enter and destroy—then may we not conclude that all diseases, whether of so-called nervous origin or not, are equally capable of being removed by the judicious application, not of electric shocks, but of *continuous streams of magnetism?*

Thanking Prof. Dalton for his honest and independent advocacy of the cure of nervous diseases by electricity, to which we may, with anatomical, physiological, and pathological accuracy, and with legitimate deductions from his scientific reasoning, add the cure, by *magnetic currents*, of *disease in general*, we pass on to the further discussion of our original subject-matter.

OENANTHE CROCATA (WATER-HEMLOCK).

BY HENRY R. STILES, M.D., NEW YORK.

DR. RICHARD HUGHES, in his "Manual of Pharmacodynamics," page 696, says of this drug: "Its special interest to us lies in the fact that the phenomena of its toxic effects resemble epilepsy more nearly than do those of its fellows," of the umbelliferæ group. He suggests its place "among our remedies for convulsions of the epileptic type," and, while he doubts "whether it will prove of genuine service in epilepsy, save when quite recent," he notes that Oehme has found it very effective in checking the epileptiform convulsions of childhood and pregnancy.

Reference to "Hale's Special Symptomatology" (page 468) and "Special Therapeutics" (page 449), of the "New Remedies," clearly indicates the resemblance of its symptoms to those of epilepsy, and suggests the hope that our *confrères* at the Middletown asylum may already have "tried it on" some of their epileptic cases; although, as Dr. Hughes remarks, its best triumphs will probably be found in the recent cases which fall to the care of the private practitioner.

Of such is the case herewith presented, one of epileptiform convulsions, due to the reflex irritation from worms.

October 30, 1883, a gentleman, residing in one of the New Jersey coast towns, brought to us his boy, aged nine years, large-headed, light-complexioned, irritable and nervous-looking. This child had had "fits" since his second year, thus described by his father: "They occur at night (rarely by day) while asleep, and sometimes two or three in succession in a night; he seldom screams, generally catches his breath, and does not bite his tongue, although he occasionally froths at the mouth. Sometimes he urinates unconsciously; picks his nose, is cross and irritable after his fits. He is smart and active when at play, and quick at his studies. He generally complains of a cold stomach a short time before he has a fit, with a good deal of pain. On retiring, at night, he is very restless, turns and twists much, with, from appearances, a choking sensation. His legs appear very stiff and sore, more especially at or near night, so that he cannot walk without limping. Picks his nose a great deal, sometimes so much that it draws blood."

His father informed us that, a year before, he had been treated for worms, and had passed one seven inches in length. He had a good appetite, his bowels were regular, and he was growing fast.

Belladonna, hyos., ignatia, silica and other approved remedies were used, with only the effect of increasing perceptibly the length of the intervals between the convulsions, and rendering them slightly lighter.

December 20—We put him upon silica, 30, each morning, and *oenanthe crocata*, 10, at noon and night.

January 24, 1884—He was reported as "a good deal better—has not had a fit in *eleven nights*."

February 25—"Has not had a fit in *forty-three* nights, and seems to be enjoying good health."

April 18—"I think you have cured him. He has not had a fit in nearly *four months*."

The patient has remained entirely free from his trouble, and in excellent health up to date of present writing.

NITRITE OF AMYL IN PNEUMONIA.—From *La France Médicale*, we note that Prof. Sylvestrini has been using *nitrite of amyl* in pneumonia, and he thus formulates his conclusions:

1. In the pre-organic stage of pneumonia, the *nitrite of amyl* may be of prompt and effective service.
2. One may repeat with impunity the inhalation of this remedy during several successive days, and in doses relatively enormous. He has administered as much as fifty grammes of the *nitrite* in five days, the inhalation being carried on for five minutes every half hour.
3. In cases which have a fatal issue, whether from extension of the pneumonia or from complications, these inhalations may retard death.

TREATMENT OF GONORRHOEA.—In order to test the validity of the claims of the two agents most recently recommended in the treatment of gonorrhœa, viz., hot water, and *corrosive*

sublimate, Dr. E. L. Keyes, of New York, instituted a series of experiments, the results of which he contributes to the March number of the *Journal of Cutaneous and Venereal Diseases*. His conclusions, from the data which he has been able to collect, are, first, a mild *bichloride of mercury* solution irritates the mucous membrane of the urethra more than it seems to irritate an open wound; second, it appears that an abortive treatment of true gonorrhœa has yet to be discovered; and third, hot water treatment of gonorrhœa is unreliable.

A CAUTION ABOUT JEQUIRITY.—After reporting a case of sloughing of the cornea after the use of *jequirity*, in the *Weekly Medical Review* (February 23, 1884), Dr. S. Pollak formulates as follows:

1. *Jequirity* is by far the best remedy which has been hitherto used for trachoma and pannus.
2. It does all, and more speedily, that has ever been claimed for purulent inoculation, minus the repulsiveness of the last remedy.
3. The infusion of *jequirity* must be used only when perfectly fresh. After four or five days it swarms with bacteria, when the danger of their entering the tissue and causing a septic state is very great.
4. Sterilizing the infusion requires much care and labor, and may not always be practicable. It will doubtless retard the decomposition, but it will not prevent it entirely.
5. The full therapeutic utility of *jequirity* will only be attained when chemistry shall have succeeded in preparing an alkaloid of it, which will keep, and the strength of it is properly known.

DEATH FROM PASSAGE OF AIR THROUGH THE UTERINE VEINS.—The patient was a healthy and powerful woman, bearing her second child. The labor ran a normal course, the patient being in the left-sided position. Immediately after expulsion of the fetus the patient was turned on to the back and the uterus pressed upon. The placenta followed quickly and easily, but immediately afterward convulsive movements supervened and the patient became unconscious. Deep collapse and superficial respiration followed, and then death, notwithstanding all efforts. At the necropsy the diagnosis which had been made of cardiac paralysis from entrance of air into the circulation was found to be correct. Dr. Gustav Braun, of Vienna, whose case it was, gave the following explanation: At the change of position of the patient, air found its way through the gaping vulva, the massage of the fundus uteri separated the placenta and forced it out again, but it again entered on relaxation of the uterine walls, and was forced into the uterine veins by the continued massage. The author believes that many cases designated as collapse, post partum, and many of sudden death in child-bed and labor, are explained by the supposition of the entrance of air into the uterine veins.—*Medical Press and Circular*, Sept. 26.

CHESTNUT LEAVES IN WHOOPING COUGH.—Dr. J. Coopreider, of Taylorsville, Ind., writes to the *Canada Medical Record* that he has used the fluid extract of chestnut leaves for whooping-cough with great success. He says:

The dose employed is from fifteen to sixty drops, according to age. If the child is large enough, I give it in hot water as an infusion, sweetened; to a small child, in simple syrup or elixir.

I give four to six doses per day, according to the severity of the case.

It not only relieves or lightens the paroxysms, but will actually cure in from four to five days.

LIVING-IN ROOM HINTS.—A very good article on this subject, by Henry F. Walker, is published in the *Medical Record*, February 23, 1884. The points which he wishes to emphasize are :

1. Examine every woman immediately after delivery, and if there be any laceration, even a trifling one, close at once with silk sutures.
2. Examine every woman when she begins to move about, and if there be a displacement of any kind, anteversion, retroversion, or prolapsus, introduce a proper pessary, with the hope that its temporary use during the period of involution will establish a cure.
3. Examine at birth every male infant, and if the prepuce be so contracted or adherent that, with probe and pressure, the glans penis cannot be uncovered, operate by splitting the prepuce as far back as the corona with scissors of bistoury. The chosen time for operation, unless urgent symptoms present themselves, being the ninth day.

PILOCARPINE FOR DEAFNESS.—For all recent cases of deafness due to labyrinthine disturbances, whatever the primary cause may have been, Politzer tries the subcutaneous injection of a two per cent. solution of *muriate of pilocarpine*. He injects four drops at first, and gradually increases the dose to ten drops daily. He gets fairly good results in about half of the cases. I have seen three cases of persons totally deaf, who, after being treated in this way, could hear and understand loud speech at a distance of a few inches from the ears ; and Politzer has had one case of perfect recovery of the hearing after it had been absent for three years, and several other very satisfactory results following the use of this drug.—*Berlin Medical and Surgical Journal*.

REMEDY FOR EARACHE.—We can recommend, from our personal experience, says the *Therapeutic Gazette*, an effectual means of administering chloroform in this complaint, and one which is absolutely devoid of danger. This is to loosely fill the bowl of a common clay pipe with cotton batting, upon which pour as much chloroform as it will retain without dripping. This done, insert the end of the stem carefully into the ear, and placing the opening of the bowl in the mouth blow gently the vapor of chloroform against the tympanum. We have found this to be an exceedingly effectual relief for the earache of children, uncomplicated, of course, with inflammatory disturbances.

THE TEETH OF THE FUTURE.—[From an address before the British Dental Association, by its President, Mr. Spence Bate, F.R.S.] In the teeth of the Esquimaux, the red Indians and the natives of Ashantee, as well as those found in the ancient barrows of England, the so called inter-globular spaces, seen so frequently in sections of modern teeth, appear not to exist ; nor indeed, are they to be detected in the dentition of the best developed structures of the modern European. Not only is the dentine getting deteriorated, but the enamel would seem likewise to be undergoing a modification, becoming too opaque. In addition to the histological changes, the external form and character of the teeth are sustaining an alteration. This seems to be in relation to an important feature in the history of their evolution. The tendency of the cranium to develop, at the expense of the face and jaws, is seen to occur as we ascend the scale of the vertebrate series of animals. Owing to this atrophy of the jaws, the proper space for the full play and development of the normal teeth would seem not to be available. At birth the bones are not sufficiently grown to receive the teeth in their normal arch ; and as, in the

human mouth, the pre-maxillary bones are firmly united a short time after birth, it follows that the posterior part of the jaw is the only place where growth can occur. Any delay in the development and consolidation of the symphysis must have the effect of contracting the space required for the teeth at this site. In the course of vertebrate evolution there is a marked tendency for the teeth to disappear. The lower vertebrates have four molars on each side in each jaw, the higher have three, while in man the number is reduced to two.

BACILLUS TUBERCULOSIS.—Dr. H. C. Ernst, of Boston, read an exhaustive paper upon this subject, in part a contribution of laboratory work, before the Massachusetts Medical Society in June last. He made a table of references to fifty publications upon this subject, and I am quite sure I have seen nearly one-quarter as many more articles published since this date worthy of reference. Dr. Ernst's conclusions are as follows:

1. A staff-shaped micro-organism exists in all forms of the tuberculous process, and its presence has been demonstrated in them.
2. It is more abundant in the rapid than in the slow form of the process.
3. Its specific nature as the cause of tuberculosis is claimed by Koch on the ground of his observation.
4. Its specific character has not been successfully refuted by trustworthy observations.
5. Its value as diagnostic evidence of tuberculosis is very great, although its absence cannot be considered as excluding that process.

DR. H. O. MARCY.

DYSMENORRHOEA.—The general conclusions which Dr. Herman, Examiner in Midwifery to the Royal College of Surgeons, draws from the effects of treatment, are the following, which may be found in the *Obs. Trans.*, 1881 :

1. That dysmenorrhoea, associated with ante-flexion, is frequently cured without straightening the uterus.
2. That straightening the uterus does not invariably cure the dysmenorrhoea, and that there is no evidence that it does so frequently.

In summing up his paper on the subject, he submits the following propositions :

1. That there is no anatomical evidence that ante-flexion causes any appreciable hindrance to the escape of menstrual fluid.
2. That there is reason to think that well-marked ante-flexion is present in nearly half of all women who have not borne children.
3. That, therefore, it is to be expected that ante-flexion and dysmenorrhoea would frequently coincide.
4. That dysmenorrhoea is practically as common when the uterus is straight as when it is ante-flexed.
5. That painless menstruation is practically as common when the uterus is ante-flexed as when it is not.
6. That when dysmenorrhoea and flexion go together, the severity of the pain bears no relation to the degree of the bending.
7. That dysmenorrhoea associated with the ante-flexions is frequently cured without straightening the uterus.
8. That there is no evidence that straightening the uterus invariably, or even frequently, removes dysmenorrhoea which is associated with ante-flexion, and in which other methods of cure have been ineffectual.
9. That these facts tend to show that the relation between ante-flexion and painful menstruation is not that of cause and effect, but merely that of coincidence.

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"A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and OUGHT to be the ONLY ACKNOWLEDGED RIGHT of an individual to the exercise and honors of his profession."—Code of Medical Ethics Amer. Med. Ass., Art. IV., Sec. I.

Our practice is not "based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

REPORT OF THE COMMISSIONER OF EDUCATION.

THE thirteenth annual report of the Commissioner of Education gives the progress and condition of the various educational interests in the United States during the past year, with many excellent suggestions growing out of a careful study of the subject in this and other countries. The number of old school colleges is put down at eighty, of new school colleges at eleven, and of eclectic at ten.

In the old school colleges there are 1,374 instructors and 10,523 students; in the eclectic school 100 instructors and 907 students, and in the new school 188 instructors and 1,309 students. The Commissioner condemns the present plan of colleges and societies granting authority to practice medicine, and speaks in strong terms of commendation of the formation and action of the Illinois State Board of Health, which is composed of representatives of three schools of medicine and two lay members, and directs its investigation solely to the knowledge possessed by the applicant, of the human body in health and disease. If his medical knowledge comes up to the right standard he receives his license without any inquiry being made as to the system he intends to practice.

Every medical school, the Commissioner thinks, should be endowed with at least \$300,000, the income to be distributed equally among ten professors. These professors should teach didactically or clinically, at least one hundred hours apiece in each year, the instruction to be progressive in subject and character. Students, before commencing their medical

course, which should last at least three years, should pass a satisfactory examination in the elements of language, mathematics, physics and biology. After having fulfilled all these requirements they can come before a State Board for final examination. Under a law like this, the Commissioner says the public would be protected from charlatans, and medical students would have some assurance that the money and time spent would be of some value to them afterwards. An arrangement like this would constitute the best possible code of ethics, and by having one uniform standard of educational requirements beget mutual respect and confidence. The medical fees, appropriated not to the instructors, but to the machinery of instruction, would give the most complete scientific apparatus which could be prepared, with every facility for experimental and clinical study.

COLLEGE OF PHYSICIANS AND SURGEONS.

THE munificent bequest of \$500,000 by Mr. W. H. Vanderbilt to the College of Physicians and Surgeons places it in the position to realize the recent recommendation of the Commissioners of Education for the Endowment of Medical Colleges, the professors and other instructors receiving a stated salary, instead of, as at present, in nearly all medical colleges, running them as business organizations, the partners dividing the profits. Medical instruction has changed so materially during the past generation that much more ample facilities than formerly are now absolutely essential to give sound medical education. Formerly the work centred in the lecture-room, consisting of didactic lectures, with perhaps a few experiments and clinical cases. Now the didactic lectures form a small portion of the instruction, the student spending a large part of his time in the practical work of the laboratory, the dissecting room and the clinic. The ophthalmoscope, the microscope, the laryngoscope, and a host of other scientific helps aid him in his researches into dead and living tissues for the cause, the results, and the relief or cure of morbid conditions. For all this investigation, not lecture-rooms alone are required, but work-shops, amply provided with every help in the way of scientific instruments and apparatus which money and scientific skill can produce, so that at least the foundation of instruction may be strong and enduring.

Twenty-nine lots have been purchased by the college, fronting on Tenth avenue, Fifty-ninth and Sixtieth streets, directly opposite Roosevelt Hospital, which will furnish large clinical facilities for instruction. The new building will extend two hundred feet on Tenth avenue, and three hundred and sixty feet on Fifty-ninth and Sixtieth streets.

The College of Physicians and Surgeons was originally organized as a department of Columbia College ; leaving the paternal arms after a few years, to stand by itself, it resumed its old position as a department of the Columbia University, a few years ago. During the past generation, until quite recently, it has been considered the most bigoted and intolerant of all the medical schools in the country, refusing a certificate of study from even its own graduates if they were tinctured with homœopathy. The old code of ethics, with its unjust discrimination and its tyrannical spirit, had no firmer supporter than the College of Physicians and Surgeons, and men of liberal spirit expected and received no encouragement from its faculty. We have reason to believe this spirit has been, within the past two or three years, materially softened and a broader and more liberal spirit now exists among some, at least, of the leading members of the faculty. The future prosperity of the college will depend in a great measure upon the elimination of everything like a sectarian spirit, and a thorough practical instruction in the great principles of the science and the art of medicine, in which bigotry shall have no share.

A NEW LOCAL ANÆSTHETIC.

IT is an interesting fact that many of the most useful discoveries have been reached almost by accident. Such was the case with the utilizing of a chemical compound but little used, as a local anaesthetic. A student of the University of Heidelberg, while experimenting recently with coca, prepared a tincture of the hydrochlorate of cocaine. A portion of it getting into the eye he was surprised to find that under its influence the eye became insensible to pain. Further experiment showed that a local anaesthetic had been discovered of great power and destined to become of the utmost importance, especially in ophthalmic and aural surgery. The material is costly at present, but as the demand becomes greater the cost of production will, of course, be lessened. Dr.

Noyes, a distinguished oculist of this city, was in Germany at the time of the first experiments, and was so struck with the action of the drug and the immense possibilities for its use in the future, that he immediately wrote an account of it to his medical friends in this city. Several operations have been performed upon the eye in the hospitals and clinics of this city, during the past few weeks, with the most remarkable success. These include double cataract, strabismus, iridectomy and other operations which were commenced and carried to a successful termination without pain or personal inconvenience. The effect of the drug upon the healthy eye lasts from nine to fifty minutes, and neither injures the sight nor harms the tissues. Dr. Agnew, whose reputation as an oculist is known throughout the world, says, after using it in several cases in his clinic in the College of Physicians and Surgeons, if its further use should prove equally satisfactory, we will be in the possession of an agent for the prevention of suffering in ophthalmic surgery of inestimable value.

A two-per-cent. solution is dropped into the eye three times, at intervals, during fifteen minutes. In ten minutes more the eye is found to be so deeply and thoroughly anaesthetized that the operation can be commenced and carried through without trouble.

NEW YORK POST-GRADUATE MEDICAL SCHOOL.

THE session of 1884-5 was opened October 1 in the new and spacious college building. The main building is four stories high, and has a frontage of ninety feet. The basement is in part given up to a pharmacy and patients' waiting room; on the first floor are a large and comfortably lighted and ventilated amphitheatre for the various clinics and operations in the different departments of surgery ; also a smaller lecture room for orthopaedic surgery and instruction in naval, military and State hygiene, and eight other rooms, one of which is a reading-room, and the others for the treatment of patients. On the second floor is a large room where thirty can be taught at the same time in laryngoscopy, ophthalmoscopy and otoscopy, a large histological and pathological laboratory, thoroughly equipped and containing one of the largest collections of specimens in the country. The two upper floors are used for hospital purposes, where private patients are treated. There are large general wards, and private rooms possessing every comfort

and convenience which could be obtained in the most luxurious home. Not the least of all the facilities of instruction is a complete photographic gallery, where instantaneous pictures can be taken showing like life even the peculiar features of convulsions. In the large yard, separate from the main building, is a smaller building for the teaching of operative surgery, regional anatomy, etc. The clinics are well supplied with material and illustrate almost every disease which can with safety be brought into a clinic. Clinics, presided over by able teachers, are given in surgery, gynaecology, venereal diseases, diseases of the eye and ear, of children, of the skin, physical diagnosis, general medicine, urinary analysis, surgical dressing, obstetrics, applied anatomy, diseases of the nose and throat, of the nervous system, also the anatomy and physiology of the nervous system, genito-urinary disease, pathology, histology, hygiene and pharmacy. The Polyclinic and the Post-Graduate School are open to the students of all schools and furnish facilities for clinical and special instruction equal to any of the celebrated medical resorts in Europe. The ample provisions, in this city, for the full illustration of almost every morbid condition, and the thorough scientific instruction in all the departments of medicine and surgery will take away much of the desire for foreign travel to obtain what can be easier and better learned at home.

The time has passed when the student will consider himself armed and equipped for his profession after having worked for a short time in the dissecting room, dissecting a part or a whole of a subject, as he can spare the time, listened to the usual course of lectures, and seen, perhaps, a few clinical cases brought into a crowded lecture-room. Brought in daily contact with men of thorough training, he will find, that if he expects to gain and hold a position, every branch of his profession must be a special study. He must be familiar with the manipulations of the laboratory and know how to use, and skillfully too, the laryngoscope, the ophthalmoscope, the microscope, and other scientific helps to correct diagnosis and skillful treatment. The ear, the eye, and every faculty of the mind must be closely trained to note and determine the true value of even minute symptoms and incipient morbid conditions. Getting away from the old fields of general theory, he learns from his logical training in minute investigation to found

his conviction upon facts which will bear the test of the closest scrutiny, and is often surprised to find himself working heart and soul with men he had been taught to despise, and shunning as charlatans and ignorant pretenders others whom he had looked upon with reverence.

There are some men who are constitutional charlatans, who would not be honest if they could, but we believe they constitute a small part of the profession, and the surest way to place them on the right level is to give all the facilities of thorough education.

ARMY MEDICAL MUSEUM.

THE Surgeon-General, in his last annual report, expresses a hope that an appropriation may be obtained from Congress for the erection of a suitable building for the Army and Navy Medical Museum, and the large library, perhaps the largest medical library in the world, which now occupy inadequate quarters in buildings liable at any time to be destroyed by fire. The museum and the library represent the investigation, the science and the progress of our profession throughout the world, but especially in our own country. The library contains a copy of every medical work and medical journal published in this country, and to the author, and as a record of the thought and progress of our profession, is of inestimable value. Washington is rapidly becoming the centre of the social and literary life of the nation, and the nation is simply performing a plain and obvious duty in properly caring for those institutions whose records form an interesting portion of national history and are for the benefit of all. We suggest to the Surgeon-General to draw up a petition to be endorsed by the medical profession throughout the country, to urge upon Congress the necessity for the appropriation for which he has repeatedly asked.

We believe if the matter is properly brought before Congress, there can be no doubt as to the result.

—When new-born children affected with thrush refuse to take the breast or the bottle, Dr. Wiederhofer (*Journal de Méd de Bourdeaux*) advises the pouring of milk by means of a funnel through the nasal fossa. This mode of alimentation is not difficult. When the milk enters the pharynx it provokes reflex movements of deglutition, and is propelled into the stomach. The author has been enabled by this means to nourish infants for three or four weeks in succession. The same procedure is useful in children born before term, in whom there are no spontaneous movements of deglutition.

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THE TREATMENT OF CHOLERA AS PRACTICED BY THE LEADING HOMEOPATHIC PHYSICIANS OF THE WORLD. By Ch. Gatchell, M.D., formerly Prof. of the Theory and Practice of Medicine, University of Michigan and Physician to University Hospital; Attending Physician and Clinical Lecturer to Cook County Hospital, Chicago, etc., etc. Chicago: Gross & Delbridge, 1884, pp. 34.

This little brochure, which costs only a quarter of a dollar, should be in the hands of laymen generally, as it presents in a concise manner the prophylaxis of cholera, as governed by hygiene and sanitary regulations, and enough of therapeutics to guide the treatment before the arrival of the physician.

OSTEOTOMY AND OSTEOCLASIS FOR DEFORMITIES OF THE LOWER EXTREMITIES. By Chas. T. Poore, M.D., Surgeon to St. Mary's Free Hospital for Children of New York; Member of the New York Surgical Society, etc. New York: D. Appleton & Co., 1884. Pp. 188.

A concise treatment, profusely illustrated, in which the methods of operating with the after-treatment of deformities is fully set forth.

HOMEOPATHIC PRACTICE OF MEDICINE. Embracing the History, Diagnosis and Treatment of Diseases in General, including those peculiar to Females and the Management of Children. Fourteenth Edition, Revised and Enlarged. By M. Freilich, M.D. New York: Chas. T. Hurlburt, 1884. Pp. 706. Octavo.

It is sufficient evidence that this work meets a popular demand, that the fourteenth edition is called for. The text is excellently clear and concise, and physicians, as well as laymen, will find it a most convenient hand-book.

HAND-BOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By Arthur Van Harlingen, M.D.

This small but very excellent manual comes to us from the house of P. Blakiston, Son & Co., Philadelphia. It is concisely and intelligently written, and contains many of the best formulas in use for the various forms of skin disease.

THE EAR, ITS ANATOMY, PHYSIOLOGY AND DISEASES. By Charles H. Burnett, M.D., with one hundred and seven illustrations. Second edition revised and rewritten. Philadelphia: Henry C. Lea's Son & Co. 1884.

The first edition of this work, published seven years ago, is known to the profession as a standard work. The advances in the science of otology have been so rapid in the last few years as to render a thorough revision necessary. The present edition is fully up to the present time.

The Century Magazine.—The November number begins the recently-announced series of profusely illustrated papers on the Civil War, by prominent Generals on both sides of the conflict. General Beauregard appropriately fires the first shot.

North American Review.—Our educational methods have been growing in system and severity, if not in perfection, for many years; and the demands upon the pupil have constantly increased, until the necessities for grading have become imperative, and the peculiarities of the individual are almost entirely ignored. It would seem impossible to carry this further, and any change now must be in some other direction. At this crisis, one of the brightest and most fearless of Amer-

ican writers comes forward with a strong argument against the whole system, a protest against the grading and cramming that take so much of the vitality out of the education we are giving to the rising generation. Edward Everett Hale, in the November number, makes a plea for "Half Time in Schools," which every parent and every school board ought to consider seriously.

CORRESPONDENCE.

KOCH'S CHOLERA BACILLI.

MESSRS. EDITORS:—In the August number of your journal you give the following description of Koch's assumed cholera bacillus: "It is described as slightly curved, like a comma, or even more so, in the form of a semi-circle. In the pure cultivations of these comma-bacilli, S-formed figures arise, and more or less long slight wavy lines, made up of two or a large number of these bacilli, which by continued increase have remained connected." I have been looking, for several months, for an accurate description of the so-called cholera bacilli, but this is the first that has come under my observation. Now, sirs, I have seen thousands upon thousands of these assumed bacilli, in numerous successive experiments with perfectly fresh fibrin stirred out of healthy bullock's blood, and put in distilled water to rot for a few days. Language could not give a more accurate description of what I have seen in that way many times, than the two sentences I have quoted describing the cholera bacilli. What can all this mean, then, but that a mistake has been made in some way, or a too hasty conclusion drawn by the advocates of the cholera bacilli? Certainly what I saw in rotting fibrin from the blood of the healthy ox were not cholera germs. And nature does not repeat herself in identical forms in two different departments of her work, the one being healthy fibrin under decay and the other disease-producing germs.

In a paper which I wrote last winter, and published June 15, 1884, entitled the "Revelations of Fibrin," a copy of which I send you herewith, you will find the following language describing the so-called spiral bacteria obtained from spiral threads of fibrin broken up by rotting: "Many of them were of the shape of a long and narrow letter S, while others had more spiral twists in them, extending out to what appeared, under the power used, to be from a quarter to half an inch in length and a few three-fourths of an inch or more in extent." Also this: "With the spirals, sometimes one end will break off in a short crook, or those of the shape of the letter S will break in two in the middle, and then it is amusing to see the awkward movements or attempt at movements of such pieces." When the end of a spiral thread of fibrin breaks off "in a short crook" this will be almost identical in form with a comma; and when the S-formed pieces break in two in the middle they give the semi-circles described by you. The semi-circles breaking in two, as they commonly do, each furnishes two comma-shaped pieces. The "long slight wavy lines made up of two or a larger number of these bacilli" are the longer pieces of the spiral threads of fibrin, two, three or more times the length of the S-formed pieces; and instead of having "remained connected by continued increase" they had not yet parted under the rotting. Their point or points of separation were often to be seen by their being partly broken at such points; and especially when they were in motion the two parts would seem to bend much more readily at those points. I have seen hundreds and thousands of these appearances in the rotting of healthy fibrin. Next, you will bear in

mind that my experiments were made last fall, before Dr. Koch went to India after his cholera bacilli; that my paper describing my investigations was written last winter, six months before I had seen the slightest description of these bacilli, and was finally published six weeks before the article quoted from the MEDICAL TIMES appeared; so there is not the slightest chance for saying that my work or the description of what I found was an after consideration, or that the language was strained to correspond with something that preceded. I was describing as accurately as I could what I saw many dozens of times in many successive experiments; and the fact that I found the same identical forms and all of them in such great numbers, exactly as Koch subsequently described what he found in an entirely different line of investigations is certainly very significant.

And here let me say there is no mistaking the various appearances of fibrin when one becomes familiar with them. There is nothing else like the threads of fibrin in their healthy organization; there is nothing else like the rods that break out from its straight threads under rotting or disease; there is nothing else like the spirals that break out from its spiral threads under similar agencies; there is nothing else like the granules of fibrin that such rods and spirals ultimately break down into; and finally, there is nothing else in all nature that goes to pieces under disintegration as fibrin does. The lines of demarcation are as distinct at every step from everything else as they possibly could be. As I have already said "nature does not repeat herself in identical forms in two different departments of her work, the one being healthy fibrin under decay and the other disease-producing germs." Hence, as I was certainly dealing with fibrin, Dr. Koch must also have been dealing with the same in the identical forms which he found. But it may be asked: Where did the fibrin come from to furnish the forms of it that Koch found in the water tanks and in the evacuations of cholera patients, if those forms were fibrin? Nothing is easier to answer. All vegetable matter, as well as all animal matter, contains fibrin. All insect life is especially full of it, and so do all the minute plants, mosses, etc., of stagnant water, contain it. It is the matrix (or as we call it in cancers, the stroma) of all organic life. Then as the plants and insects of stagnant water are so short lived (the generations succeeding each other so rapidly, dying and going to decay) they furnish the broken fibrin in abundance to be found as Koch found it therein. The characteristic cholera discharges are the serum of the blood, containing its full amount of fibrin; hence here the presence of fibrin is inevitable, and under the congestion of blood to the vessels of the small intestines, to there part with so much of its water and fibrin, the latter takes the forms described, under the effects that disease works upon it. It seems to me that no one who carefully investigates all the points, with these facts in view, will be able to successfully dispute the positions here taken.

But many may ask, as many no doubt have asked before, how it is or how I can have the face to claim that the whole scientific world is wrong on this subject and I alone right? I have seen as clearly as any one could the apparent absurdity of the position, viewed upon the surface only, that I have occupied on this question, contradicting most of the authorities and great workers; but I have been willing to endure temporarily all the obloquy that might attach to the position for the ultimate great good that I know must certainly come of the agitation. Somebody must suffer for every important truth. Let me now endeavor to clear up much of the mystery and contradiction. In 1675 Anton Leuwenhoek made "the discovery of a new world" by placing "beneath his microscope a glass tube full of standing rain water." That

is to say, with the microscope he found both animal and plant life in great abundance, but invisible to the naked eye, inhabiting every drop of stagnant rain water. Other naturalists followed on in his footsteps through the two succeeding centuries until what are now called bacteria were found and classified in recent years. Botanists especially have investigated much in this field to get back as far as possible to the origin of vegetable life. And they, having found the bacteria developed in infusions of hay and other vegetable matters, and corresponding in part with plant life, naturally enough called them vegetable structures. In some respects, however, they correspond much more to animals than to plants, as is conceded by the best authorities. Well, coming along down to thirty-five years ago, some careful investigators in Europe found in the blood of cattle dead of anthrax, precisely similar forms to many of those found by the naturalists in stagnant rain water, and they also naturally enough called them the same or bacteria. "Pollender found, as early as 1849, in the blood of cattle suffering from anthrax a countless mass of fine rod-like bodies, which in figure and appearance resembled vibriones, and in their micro-chemical behavior were seemingly of a vegetable nature." Observations were extended to other diseases of animals, and the same forms were found in the blood or congested parts in those diseases as in anthrax. Physicians applied themselves later to similar investigations with the blood and tissues in human diseases until in 1868 the so-called bacteria were found in great abundance in diphtheria. Since that almost all diseases, even to common boils, have been shown to furnish them, until Koch found his assumed cholera bacilli in India last spring. And why should they not find these forms in all diseases? Fibrin exists in all blood, whether in health or disease, and is changed by disease into all the forms they have seen and called bacteria. Physicians having found the same things in human diseases as the veterinary investigators had in animal diseases, they naturally followed them, as the latter had the botanists before them, and called them "vegetable parasites;" without its appearing to have occurred to any one to ask or to enter upon the slightest investigation to ascertain if fibrin or any other element of the blood or tissues was or could be changed in this way by disease. Here, then, is the history in short of this whole matter, or the order in which the ideas upon it have reached their present shape.

Five years ago I had occasion to investigate diphtheria more carefully than ever before, both for a better knowledge of the real nature of the disease itself, and to settle some facts for its most successful treatment. The first thing to be done to accomplish this was to put together all the facts then known bearing in any way upon the disease, and see what they could show. The first clearly settled fact presented was the one that had long been known, viz.: that the membranes of diphtheria were wholly or almost wholly made of fibrin; and that this fibrin was necessarily secreted from the blood upon the tonsils or other parts, to there form the membrane in the same manner or similarly, to the formation of other false fibrinous membranes. The next question was: How did this fibrin, which exists in a fluid or semi-fluid state in the blood, organize to form the membrane? Physiologists have long taught that fibrin organizes in one way and in one way only, viz.: by condensing from its fluid state into granules, which unite into rods and these into threads. Well, there is no other way in which these threads could form the membrane excepting by being woven or plaited together. In the progress of making the membranes of diphtheria, therefore, the granules of fibrin appear first in the work, then the rods, then the threads and lastly the membrane. Often too, if not always,

many of the threads contract and curl upon themselves into the spiral form. The next step, in my work, was to compare carefully the granules, rods, threads and spirals of fibrin, which were always and inevitably present in diphtheria, with the various forms of bacteria, as these were carefully described by many observers. To my great surprise I found that the granules of fibrin corresponded exactly in every respect, form, size, color, vastness of numbers, etc., with the micrococci, or the most prevalent form of bacteria, that the rods and straight threads of fibrin corresponded as exactly with all the descriptions and pictures of the bacilli of similar lengths, given by the bacteriists; and that the spiral threads or spiral pieces of the threads of fibrin were as exact a representation of the spirochetes, or spiral bacteria, of like lengths, as it was possible for them to be. This covered all the classified forms of bacteria of the books, which are almost infinitely more numerous than any of the other varieties and seemed sufficient for my purposes at that time. And to my still greater surprise not a sentence or word could I find in all medical or bacterial literature, after many long and careful searches, to tell us that these forms of fibrin were ever present in diphtheria or any other disease in which so-called bacteria abounded, or telling us to be careful not to confound the two together. In short, not one of all those who claim to be the most careful investigators in the world appeared to know, or have they ever said a word, even to the present day, about the existence of any forms of fibrin that corresponded in the least to their various forms of assumed bacteria, whereas the indisputable fact is that such fibrin forms are always present in such cases. I defy them to prove the contrary. What kind of science is this of the so-called greatest scientists of the world?

There is another important fact in nature bearing upon this question, which I relied upon to establish the truth of my position, without stopping to specifically prove it. It was this, that all organic structures break down under decay in the inverse order of their original construction. When the membranes of diphtheria go to pieces under rotting, the fibrin of which they are constituted parts into its threads, which break up then into rods, and these into their component granules, in the exact inverse order of their primary organization, as it is inevitable that they must; and then it is that they afford the best opportunity for studying the various fibrin forms that have been miscalled bacteria. While the membranes are forming the granules, rods and threads of fibrin pass through their successive stages of organization much more rapidly than when disintegrating; hence the better opportunity, I repeat, for studying them when rotting. Up to last year, however, I relied upon the proof given by physiologists and otherwise obtained of the forms presented by fibrin in its organizing stages and upon the well known fact that all organic nature does break down in the exact inverse order of its primary construction to prove my position and claims, thinking that ought to be sufficient to arrest the attention of all fair minded scientists. But alas for my credulity! Little else than abuse came of all my hard work, until I said: This thing has got to be proved, for or against me, no matter which, so long as the truth is established. Then it was that I boiled and rotted both blood and fibrin and treated them in many other ways to see whether I was right or wrong. And then it was that I did prove all that I had claimed and much more against the bacteria theory; besides opening the whole world of life to our scrutiny as never before, and laying much of it out before us like a map of the geographical world. It pays to rely implicitly upon the simple facts of nature. The simplest of them have a far-reaching significance and consequence. The falling apple solved the mystery of the movements of the universe.

In conclusion it may not be out of place to consider the results of the prevailing method of treating cholera in the present epidemic of it in Europe. Precisely the same ratio of deaths to the number attacked occurs now that did when it first appeared there over fifty years ago. The pretended discovery of its germs has not made the slightest difference in the results of treatment, as we have seen by the foregoing it could not. Our Consul at Marseilles reports that "notwithstanding all progress in medical science and the very perfect arrangements for collecting and treating the victims of the scourge, more than two-thirds of those attacked have died, even during the first fortnight of the epidemic, when all sanitary conditions were most favorable. These two facts, the almost immediate transmission of the disease from Toulon to Marseilles, and the enormous death rate of seventy per cent. in the earliest stage of the epidemic, seem to prove that sanitary science and medical skill have made but little substantial progress in dealing with Asiatic cholera." In short, whatever may be said of sanitary science in other fields, medical skill, as applied to the present epidemic in Europe, has not made the slightest progress from the first appearance of cholera in Orenburg, Russia, in 1823. What a comment on the boasted progress of old school medicine! There must be, there is a better way.

ROLLIN R. GREGG, M.D.

[Our interest in arriving at the truth in this controversy induces us to enable Dr. Gregg, the champion anti-Kochite, to be heard, and if he can show with scientific precision that these minute organic forms are simply fibrin in various stages of disintegration, the world will be only too glad.

Some of the foreign papers proclaim that Dr. Koch's microbe theory of the origin of cholera has been exploded, because a Dr. Kline, in India, has boldly swallowed some of the microbes without being taken ill. But Dr. Koch's theory covers all such cases. He explains why some people die of cholera while others escape by the fact that in a normal healthy person the microbes are killed by the acid in the stomach, as they can only flourish in a medium with an alkaline reaction, such as is furnished by persons of weak health. This explains also the necessity of attending to the health in general, and not only avoiding suspicious food and drink during an epidemic.

The scientific world has not yet accepted all of Koch's investigations, and we have no doubt it will be just as ready to accept Gregg's, when he fortifies it with unquestionable demonstration. Dr. Gregg should associate other workers with himself, who would be able to give the necessary time to make the experiments which would help to settle the matter, and until he does this, he cannot expect many scientists to accept his views.]

SECT OR PROFESSION—WHICH?

MESSRS. EDITORS:—Belonging to the so-called "old school," it is possible that side of the great entirety of medicine may appear to me in outlines of undue distinctness and simplicity, but with an age which has given several decades to active practice, with retirement in a great degree from the maelstrom of partisan strife and passion, and more than all, with a life-long fondness for historic medicine as a branch of ethics pure, it seems to me that I can review the medical fictions of to-day with the same imperturbability which would accompany an inspection of those that had their lives, uses and deaths in the long-past centuries.

It is from this plane of thought that I have frequently and carefully reflected upon the various increments which go to make up the whole of medicine. As one of these growths we may justly include Homœopathy, and this too, without necessarily indorsing its claims.

With a knowledge of the merciless extent to which the people at the time when Homœopathy was propounded, had been gorged and murdered with messes called medicine, it is not at all improbable that the first step in the mind of the originator of homœopathy was a revolt against the monstrous medicine-administering method of his day.

In groping around for something better, he chanced upon an observation which led him to a series of experiments, and he became carried away by a joyous belief that he had really discovered the great law that dominated all therapy. Whether any great law, or even any subordinate rule, was really discovered it is not my purpose to discuss any more than to suggest this: If the existence of a universal law of therapy was discovered and revealed under the name of Homœopathy, then evidently its application and its full mode of exhibition are to the present very ill-understood; for if homœopathy be the law and the only law of therapy, its results should, when it is intelligently applied, so far transcend all other therapeutic attempts as to allow no ground for doubt or contest as to their respective merits. It should be plain as the light of day that no cure could occur that was not in strict obedience to the "great universal law." To the contrary, I am not aware that even the most fanatical extremists in homœopathy claim that no cure is ever made outside this "universal law." But if cures are *ever* made outside this "universal law," then the "universal" at least must give way to some weaker adjective, and homœopathy must recognize itself as a fraction in place of an integer.

Just here we reach the purpose of this brief communication. Well-educated and honest-intentioned homœopaths, and it, perhaps, can be conceded that a majority at least of the school are such—may sincerely believe that homœopathic therapeutics give, say fifty per cent. better results than any other treatment. But, logically, this does not help their case. It does not rescue homœopathy, at the best claimed for it, from the position of being a fraction.

Now, if it be admitted that homœopathy is, at its best, but a fraction of medicine, be the fraction great or small—that is, if it be admitted that cures are effected through treatment not in conformity with the so-called "universal law of homœopathy"—then is it right and is it just to their patients that homœopaths should stand aloof from the body general of medicine and repulse the benefits which certainly do result from a wider and more varied contact with medical thought, and to disdain a fullness of knowledge without which they inflict a serious wrong upon their trusting patients, and work against their own moral nature?

In the past, there has been, I deeply regret to admit, a valid excuse for such standing aloof. The "old school" has heretofore exercised a tyranny of creed, which sadly smirched its escutcheon of science. But in New York City this has practically ceased. The doors of the old mansion of medicine are now open to all properly-educated, well-behaved applicants. It does not propose, as a body, to indorse the beliefs of its members, and, on the other hand, it does not propose to dictate a creed or to interfere with the beliefs of its inmates. One may believe or disbelieve, according to his own good pleasure, that opium produces sleep, that castor oil will act as a cathartic, that acids will neutralize alkalies, that there exists a therapeutic law expressed by the term Homœopathy, or under the name of Alterative, or he may believe that the rays of the moon, when duly attenuated and shaken, are more potent than prussic acid or bolts of electricity. But while this freedom is accorded, it is at the same time to be understood that no body of workers for science would consent to having 365 days in the year of their time in society-labors taken up with listening to mere beliefs, or to ill-established miracles of cures, however fascinating they might be, to the exclusion of solid matters of fact and real practical work.

All special and unsettled questions can be chiefly discussed and developed in special societies, and when the results have approached to anything like certainty they will be eagerly received for examination by the body entire of the medical profession.

The profession is already made up into departments, and the New York "old school" of to-day would no more object to its members forming a society for homœopathy than it would to a society for *materia medica* in general, a society for microscopy for the study of disease germs, or any other kind of special investigation.

A reasonable amount of investigation can probably convince any unprejudiced member of the homœopathic societies that what I have said is true.

I have spoken of the "old school" of New York as a whole. It is true, to be sure, that there are in it some with fanatic organisms, the same as may be found in your own societies, and in all collections of human kind. With these few of the "old school," their malady is such that the very word "homœopathy" will produce a more or less violent spasm, a kind of homœopathic epilepsy. But they are really the few. The uproar they make may give to the outside an idea of numerical force, but one case of *mania a potu* is often more noisy than all the rest of a village.

Now, I wish to offer two or three serious questions to the intelligent and calm-minded portion of those who compose the homœopathic societies:

Can you truthfully affirm that your practice is strictly homœopathic, or, indeed, that you do not daily depart from the observance of strict homœopathy? If so, is it not because that in those instances you think that medicines that have stood the test of experience and which cannot be claimed to act homœopathically are more serviceable than anything you know of in homœopathy? And, in such instances, would you employ such medicine if you thought it really hurtful or even non-beneficial?

I have a sufficiently high opinion of the truth-level of these gentlemen to know what the answer to the foregoing would be, and if in this estimate I am not at fault, I would ask why they do not join the body catholic of medicine where the field is unlimited and where they can more effectually contribute the fruits of their experience to the benefiting of humanity.

It would also clear them from a more or less just obloquy for allowing themselves to be represented as what they are

not, and for encouraging popular prejudices, which obstruct science and human welfare.

Is not a love for truth, in word and action, and a love for exact science the only things that have ever raised man from a brutish existence to high civilization? Are not these better than the gratification of petty passion or exultation over fruitless and fanciful verbal conquests?

It was some five or six years ago, if my memory serves me, that the homœopathic societies of this county and State passed a resolution stating that their members did not regard homœopathy as including the entire domain of therapy and that they availed themselves of whatever other resources experience had proven to be good.

In both societies, I believe, this resolution was afterwards rescinded; the gentlemen who voted for this resolution have not, however, changed their ideas, at least I have good reason to believe that they have not changed their practice. But their continued and silent membership with these societies puts them in a position somewhat difficult to explain. Some few of them have had sufficiently strong natures to follow the courage of their convictions, and have resigned rather than live a false life and under a partisan tyranny. They have left the societies for the very same reasons, apparently, that they formerly left the "old school" societies.

But those gentlemen who voted for the resolution referred to, and who still remain members years after it was wiped out, what have they to say as respects their courage and the ambiguous and humiliating conditions that have been forced upon them? One hundred years hence will the record they are making read as they would like?

When time winnows from deeds all the chaff of passion and falsehood, history will measure the real grain with inexorable exactitude, and thus will one's unbedecked character go into the hands of an interminable posterity. *

[We are credibly informed that a resolution making the diploma of an homœopathic college insufficient credential for membership in the County Medical Society, was recently *unanimously* rejected! What an immense stride in the direction of liberality in medical belief and action, when this old and conservative society only asks non-sectarian *designation* to all properly educated applicants to its fellowship! By such acts does not this Society become the representative of progressive medicine? Soon, doubtless, we shall see in this Society a bureau of Comparative Experimental Therapy, which will be sufficiently broad and catholic to cover all there is in medicine; then there will be no opportunity for sect. We look upon the position medical affairs are assuming in this vicinity as most significant, and we may yet hope for that millennium which all honest workers would welcome!—EDS.]

OUR LONDON LETTER.

MESSRS EDITORS:—The choice of London as the meeting place for the annual Congress of British Homœopathic Practitioners was eminently justified by the result. The gather-

ing was a complete success, and in numbers far surpassed any that has taken place for years past. The business was transacted in the "Baye's Ward" (as yet unoccupied) of the London Homœopathic Hospital, in Great Ormond street. At ten o'clock, on the 18th of the month, the President, Dr. Hayward, of Liverpool, took the chair and delivered his address, which met with a most cordial reception. It was on the relation of recent discoveries (or supposed discoveries) of microbes and consequent changes in pathological doctrines, to the practice of medicine, *i. e.*, of homœopathy. And he showed very ably and very clearly that, come what changes in pathological theories there might, homœopathy was founded on a solid rock of facts, and was not affected by the ebb and flow of such ever-changing things as these.

Dr. Hughes gave an able exposition of what our *materia medica* ought to be, and what it should be our endeavor to make it. The success of Dr. Hughes in bringing about unanimity of opinion and union of effort in this work at home and in America, is something of which any one might be proud, and augurs well for the success of the work itself. Dr. Cooper gave a full exposition of the virtues of Flitwick mineral water—a ferruginous, silicious spring—the action of which he has studied with very great care, and to the great profit of many of his patients. Dr. Gibbs Blake followed with an admirable specimen of a proposed arrangement of a "Therapeutic Repertory," taking nephritis as a specimen. After this had been discussed your correspondent read as much of his paper on "*Iodide of Arsenic in Organic Disease of the Heart*" as there was time for, and at 7 o'clock the company re-assembled at the Holborn Restaurant for dinner, they having lunched together at the same place in the middle of the day.

The dinner was a most pleasant affair, and not the least element of the pleasantness was due to the presence in our midst of Dr. Ludlam. The President reserved the best things for end of the feast when he fixed on Dr. Ludlam to respond to the last toast on the list. But I need not talk to you of Ludlam—you know him.

Norwich was fixed on as the next meeting place, and the last Friday in September, 1885, as the day. Dr. Herbert Nankivell, of Bournemouth, a name that has long occupied a foremost place in our ranks, is President elect, Dr. Roche, Sr., of Norwich, is Vice-President, and Dr. Roche, Jr., of Norwich, is Local Secretary.

At the meeting of the Hahnemann Publishing Society, with Dr. Hughes as President and Dr. Hayward as Hon. Sec., on Wednesday evening, September 17, the volume of the *Materia Medica* containing revisions of aconite and kali bichromicum, with crotalus, digitalis, nux vomica and plumbum, new, was produced, and a second volume was announced to be nearly ready as soon as funds were forthcoming to publish it. The chapter "Generalities" of the Cypher Repertory was also announced to be nearly ready, and it was voted that it should be completed.

The School of Homœopathy begins a new session on the 25th of October, when Dr. Pope will deliver the Hahnemann oration. Dr. Dyce Brown will lecture, as usual, on "The Principles and Practice of Homœopathic Medicine." A vacancy having occurred in the *materia medica* lectureship by the resignation of Dr. Burnett, your correspondent has been appointed in his place. The notice, however, having been very short, Dr. Pope has kindly consented to lecture till Christmas to give the new lecturer time to prepare his course.

Fraternally yours,

JOHN H. CLARKE, M. D.

15 St. George's Terrace, Gloucester
Road, London, S. W., Sept. 30, 1884. §

EDUCATION OF THE DEAF.

MESSRS. EDITORS:—How deaf children should be educated is a matter of growing interest and importance. It is not enough to consider the best means of giving them useful knowledge and training in various branches of study; the future should be kept in mind, and everything done to break down the barrier of isolation. Will not this class be more enabled to associate, in after life, with hearing persons if they are educated, as far as possible, with hearing children? At the Convention of Teachers of Articulation, held in New York, June 25-28, 1884, much attention was devoted to this side of the subject. Those who are connected with classes conducted on that principle gave full reports and were afterward questioned on various points; the effect was to give fresh stimulus to those striving to secure wide-spread education for the deaf. Not a word was said against the noble work of the institutions; their record is acknowledged as an honor to the country. Statistics, however, prove that there are many more deaf mute children in this country than are being educated in these State institutions; private schools and private teachers are few in number; therefore notwithstanding much has been accomplished, more remains to be done. The Rev. F. D. Wines, of the Illinois State Board of Public Charities, stated that there are about 5,000 deaf children of the proper age to attend school who have never seen the inside of a school.

In devising plans to secure an education for all deaf children it is well to remember that they are among all classes of people, in the homes of the rich, of the well-to-do, of those in moderate circumstances, and of the poor; and in large and small cities, villages, and the open country. Manifestly, there must be need for every kind of a school and every good system of instruction. Until this want is recognized and supplied the parents of a deaf child will have to search for schools and teachers, and will, in many cases, be compelled to send the little one far from home to receive the kind of instruction they prefer.

Except in a few instances it is not possible to put hearing and deaf children in the same class, but this has worked remarkably well in the Kindergarten School, under the direction of Prof. Bell, at Washington, and is certainly worth trying wherever practicable. The plan which appeals most directly to the needs of large cities is to have the Boards of Education provide for the deaf in their school building; in this way the pupils have the benefit of trained teachers during recitation hours, association with hearing children at recess, and the inestimable value of living in their own homes in daily intercourse with their brothers and sisters. This plan has been tried with great success in several cities, and is particularly desirable because it provides for the many partially deaf and "hard of hearing" children. According to statistics carefully compiled by a physician, out of 8,715 cases of ear disease, accompanied by impairment of hearing, 2,175, more than twenty-five per cent., were children under fourteen years of age, all of them pupils in the public schools. It is impossible for such to progress favorably in their studies unless due allowance be made for their imperfect hearing. This is seldom done. Further, such cases always show the need of special attention from a trained teacher of articulation. The President of the Convention, Prof. A. Graham Bell, of Washington, D. C., called attention to the important fact that correct, distinct articulation should be universal, and every child ought to be carefully instructed in a knowledge of the principles of speech, and the friends of the deaf are not requesting an exceptional thing when they ask that articulation be imparted to this otherwise isolated class. There are hosts of stammerers,

lispers and other kinds of indistinct speakers, whose utterance testifies to the need of a wide-spread attention to this science. The Convention passed a resolution urging the establishment of a training school for teachers of articulation, the curriculum of which should include the anatomy and physiology of the organs of speech and hearing, vocal gymnastics, speech-reading and elementary laws of sound; the methods of testing and educating latent hearing, English orthography and orthoepy in their special relation to the deaf, and the art of imparting a knowledge of articulate speech to the deaf.

Interesting accounts were given by various teachers of the results of using speaking tubes, audiophones and other instruments for aiding the more or less hearing found in many pupils. Reports were given of the work of the schools in this country and Canada—fifty-eight in number—and papers were read relative to institutions in Europe. These were followed by friendly comparisons of methods and interchange of opinions.

LILLIE E. WARREN.

No. 70 W. 19th Street,
New York, Oct. 22, 1884.

[Dr. Gelle, of Paris, has found that twenty to twenty-five per cent. of children hear only within a limited range. A practical result of this discovery is that children are now placed at such a distance from the teacher's desk as will correspond with their strength of hearing.—Ed.]

TRANSLATIONS, GLEANINGS, ETC.

HEMATURIA.

BY PROF. R. ULTMANN, OF VIENNA.

Translated by W. Storm White, M.D.

PART III.

2. *Varicosis of the Pars Prostatica and Bladder.*—Varicose enlargements of the veins of the bladder, also called vesical hemorrhoids, in consequence of which haematuria takes place, are of comparatively rare occurrence. According to the views of the older physicians, every hemorrhage of the bladder was considered as caused by hemorrhoids; more recent investigations have taught us that parenchymatous disease and new growths in the bladder are much more frequently the causes of haematuria than varices. However, we sometimes find phenomena developed in patients which can only be explained by the presence of vesical hemorrhoids. The etiology of these dilated veins is obscure. I have observed several cases and found that every patient has, at the same time, had well developed hemorrhoids of the bladder. I have also observed that haematuria and bleeding at the rectum never occur at the same time. If violent rectal hemorrhage was present, the haematuria ceased, not only for months, but for years, as I was able to prove in one case, and if haematuria intervened, the hemorrhage from the rectum stopped. In one case sero-sanguineous discharge from the urethra occurred in conjunction with the haematuria. It is very probable that in this case there was also dilatation of the veins in the pars prostatica (from the fluxus prostaticus).

Patients who suffer from this kind of hemorrhage from the bladder are otherwise perfectly well. They are comparatively strong and do not appear cachectic. The most important symptom is the excessive haematuria which occurs when the patient feels in the best of health, and confines him to the

bed. It is characteristic of this variety of hemorrhage that it occurs suddenly and without apparent cause, lasts several days (rarely weeks), and again gives place to perfect health. It is sometimes so violent that the patient becomes very anemic. As a difference between these and other hemorrhages from the bladder, we note that they occur less frequently. In the beginning of the disease, when the patient is young and strong, there are periods of a year or more between the hemorrhages; later, when he becomes older, they are repeated every two or three months or oftener, but with less violence. There is no pain in either the bladder or urethra. Sometimes there is urging to urination during the hemorrhage. Perfect health is presented during the intervals. If the patient becomes weak and anemic during the attack a voracious appetite is developed afterwards and they soon completely recover.

The urine is blood red and increased in quantity. This increase is sometimes the only symptom by which the patient knows whether he is passing blood or not, if it takes place in the dark at night. In such case he must void urine oftener and never seems to have quite finished. It is not the desire to urinate that causes him to make a light and investigate, but the large quantity. In the course of this bleeding, variously-shaped lumpy concreta are formed in the bladder, but they are usually passed without any difficulty. Sometimes there is so much blood that more blood than urine is voided. The urine is either neutral or alkaline, because of the quantity of the former. In the latter case, the alkalinity of the blood serum has entirely overcome the acidity of the urine, and the hemorrhage is excessive. It is evident that such urine will contain much blood-coloring matter and albumen. In the sediment, we find only blood corpuscles of normal disk-shape and of normal size. In the intervals between the hemorrhages, the urine is either perfectly normal, or, as is most frequently the case, it shows the characteristics of a slight catarrh of the bladder, without albumen or pus. It is straw-yellow and contains an increased amount of cloudy mucous secretion, and is weakly acid. Microscopically, we find mucous corpuscles, epithelium from the bladder, and numerous bacteria in the sediment. Papillary tissue and other cancerous structures are not present, and, to distinguish it from that occurring in papillary tumors, there is no albumen, or only a trace, in the intervals between the hemorrhages, while in papillary tumors there is always a larger quantity of albumen. Furthermore, in the intervals, there is never an escape of shaggy concreta or brownish flakes as we have, as a rule, with cancers. There is also no cachexia, and the extreme pain in the urethra and perineum and the painful urging to urinate are absent.

No tumor is found by rectal examination, and the inguinal glands are not infiltrated. To distinguish it from calculus, we have the violence of the bleeding and its unexpected occurrence, very frequently in the night, in bodily quietude, while usually no hemorrhage occurs during active bodily exercise. Besides, we lack the purulent catarrh of the bladder, the tenderness of the glans and the pain following micturition, and finally, the negative results following exploration with the sound. The bleeding in vesical hemorrhoids has the characteristics of a rhexis of larger vessels, while in papillary tumors it takes on those of a parenchymatous nature.

3. *Hemorrhage with Calculus* very rarely attains the violence that it usually has with papillary tumors and varices of the bladder. It usually occurs after bodily movement (after driving, horse-back riding, etc.), in considerable quantity, while during rest it completely disappears or is reduced to a minimum. The diminished or increased hemorrhage is apparently dependent on the greater or less injury which the stone causes by being shaken around in the bladder. Sometimes,

also, a large hemorrhage takes place at the close of micturition, with great pain, if the walls of the bladder embrace the calculus more closely. This occurs all the more if the bladder is inflamed and the stone has rough surfaces.

In rough, irregular calculi the hemorrhage is always more violent than when they are smooth. Therefore those composed of oxalates and of phosphates of ammonia and magnesia cause the most hemorrhage, while it may be very slight with those of smooth urates. The weight has also an essential influence on the bleeding. Heavy oxalates and urates cause severe hemorrhages, while the light cystine ones are very seldom a cause of it. Hemorrhage from calculus is usually associated with purulent catarrh of the bladder. The symptoms of stone in the bladder, especially if free, are well known, and therefore will only be touched upon. Pains and urging to urinate are much greater on standing or walking than when in a horizontal position with the hips elevated, because in the latter case the stone lies in the less sensitive fundus of the bladder. Micturition is also much less painful while in the prone position than when standing. The stream is much more likely to be interrupted by the stone while standing. The tickling, burning and prickling in the glans and urethra are intermittent and never so severe as in new growths situated in the vicinity of the collum vesice. Sometimes the patient feels a hard body drop over from one side to the other when he turns over suddenly in bed and the bladder is full, and sometimes we may feel the stone with the finger in the rectum, if there is no hypertrophy of the prostate. We can confirm the diagnosis of calculus, however, only by an explorative examination with the sound.

In different calculi the urine shows different characters. If the stone is small and smooth, there will be no accompanying purulent catarrh. However, the urine is made turbid by an increased cloudy mucous secretion, is acid, and contains neither albumen nor pus. On the other hand, if the stone is rough and large, purulent catarrh is nearly always present. The urine is made turbid by blood and pus, reacts alkaline from the carbonate of ammonia, and contains albumen in a quantity corresponding to the amount of pus and blood. In the former case, the sediment is flocculent or finely granular, while in the latter it is tenacious and clings to the vessel because of the alkaline pus.

Besides blood and pus corpuscles and bladder epithelium, we find microscopically the most different forms of amorphous and crystalline substances. From the presence of the latter, we discover the chemical composition of the calculus; yet we can only decide in regard to the nature of the last layers of the stone with any degree of certainty.

The nature of the nucleus, or even of its principal portion, can be judged with more certainty from the character of the urine and its sediment. Under the microscope, the blood corpuscles usually appear in their normal disk form; yet, however, in acid urine they may be spherical and of different sizes.

4. *Hemorrhage caused by Parasites in the Bladder*.—In our latitude hemorrhage into the bladder, caused by parasites, does not occur. They are found in the endemic haematuria of the Isle of France, Madagascar, Brazil, and especially in Egypt. The cause of this endemic hemorrhage is the *Distoma hematobium*, which Bilharz discovered in Egypt in 1851; since then this parasite has also been called *Bilharzia haematobia*. Sonzino also made researches in this direction on both the living and the dead in Cairo. In Egypt it is assumed that the parasite is found in the Nile water, and that only those persons are attacked who drink the dirty Nile water, or eat salads and other vegetables which have been washed in it.

without being afterwards cooked. In fact, it has been noticed that not only the natives are attacked, but also foreigners who have been exposed to the above-mentioned conditions. The parasites are supposed to enter the veins from the intestinal tract, more especially the veins of the rectum, which are usually somewhat dilated. Proceeding from there they reach the veins of the bladder and the female discharges her ova. The eggs, which are produced in great number, stop up the finer blood vessels. The latter burst and the ova escape into the surrounding tissues and originate an inflammatory process. Because of this, we find that blood coagula and shreds of inflamed tissue containing large numbers of eggs are emptied into the cavity of the bladder. Catarrh of the bladder and haematuria are developed at the same time.

The microscope shows us formations which are characteristic of the disease. If a small red shred be spread out on the slide and examined (and there are usually many of them in the sediment), we find large numbers of the characteristic ova of the *bilharzia* embedded in the masses of blood and pus corpuscles, and in the necrotic tissue or in fibrin.

The eggs are oval, rounded off on one end, and have a bayonet-like prolongation $\frac{1}{16}$ m.m. long and $\frac{1}{16}$ broad on the other. Their contents are granular. Defunct ova, or those from which the embryo has escaped, appear shrunken and infiltrated with spherules of carbonate of lime. Eggs are sometimes found with the prolongation at the side.

I am indebted to Dr. Sachs, of Cairo, for the specimens which I have examined from this endemic haematuria.

A frequent complication of this haematuria is the formation of calculus, which results from the incrustation of the soft blood coagula with salts, and they may attain considerable size.

5. Hemorrhages in Tuberculous, Diphtheritic and Croupous Processes in the bladder are never very violent and are usually parenchymatous, and are associated with such generalized disease that they are not important therapeutically. In severe types, as in puerperal processes and generalized diphtheritis, we may find whole shreds of the mucosa of the bladder in the bloody sediment.

I have twice found white croupous membranes composed of fibrous material in the sediment. In one case (puerperal) the membrane was nearly the size of the palm of the hand and several m.m. in thickness.

In tubercular ulcerations of the bladder we also find much molecular detritus and bacteria in the sediment.

IV. Hemorrhages from the Kidney and from the Pelvis of the Kidney are observed in inflammatory febrile processes, in parenchymatous nephritis, in renal calculus, in thrombosis of the renal veins, in tumors and tuberculosis of the kidneys, and, finally, in wounds and traumatisms of the organ.

1. In Acute Inflammatory Processes, especially in exanthemas, we not unfrequently find haematuria. It usually indicates a higher grade of renal hyperæmia, and is sometimes the commencement of an acute parenchymatous nephritis. The hemorrhage is generally parenchymatous.

The color of such urine is reddish-brown, the reaction is acid. It contains much albumen and blood-coloring matter in solution. The alkaline chlorides, as well as the earthy phosphates, are not unfrequently greatly decreased. The greater part of the sediment consists of fluid blood. Microscopically, the blood corpuscles are found to be small, of different sizes and spherical. Besides these, there are also found epithelium from the kidney and single hyaline cylinders or cylinders composed of blood corpuscles.

2. Parenchymatous Nephritis, acute as well as chronic, is not unfrequently accompanied by parenchymatous bleeding. Sometimes the febrile haematuria, especially in acute exan-

themas, as stated above, goes over into acute parenchymatous nephritis. The urine has either a red-brown or dirty-yellowish, flesh-water-like color. The reaction is acid; the specific gravity is increased in acute parenchymatous nephritis, and lessens in the chronic form. It contains considerable amounts of albumen, and sometimes blood-coloring matter. In the sediment, beside blood corpuscles of different sizes, lymph corpuscles and kidney epithelium, we also find different varieties of cylinders. In acute parenchymatous nephritis we find hyaline, epithelial and fibrine cylinders, the latter sometimes containing red blood corpuscles. In chronic parenchymatous nephritis, hyaline and granular or finely granulated cylinders. Parenchymatous nephritis is usually accompanied by dropsy.

3. Hemorrhage from Renal Calculus is usually parenchymatous, and only occurs periodically, particularly after violent bodily exercise. The formation of calculus in the kidney is, in most cases, primary, i.e., it is commenced by the sedimentary substances of an acid urine—uric acid, oxalate of lime or cystine. It is rare that this is secondary, i.e., an incrustation of carbonate of lime and earthy phosphates. The latter form of calculous formation in the kidney is usually preceded either by a violent hemorrhage with the formation of a resistant coagulum or a long-lasting suppuration in the pelvis of the kidney (pyelitis). Uric acid is usually the element of the acid urine which originates the primary formation of calculus in the kidney.

Cystinuria is of very rare occurrence, and oxalate of lime is employed more in the formation of layers of a concretion than at the commencement of a stone in the kidney. (Utzmann, *Ueber Harnsteinbildung*, *Wiener Klinik*, 1875, No. 5.)

An excess of uric acid in a concentrated and strongly acid urine, particularly if the uric acid crystallizes in needle-shaped, pointed crystals, is not seldom the first beginning of renal calculus. Yet the first symptom which disturbs the patient and drives him to the physician is the accompanying haematuria.

In the beginning of the disease, if the concretions are still small or are only just beginning to form, we find, microscopically, in the sediment, besides a great number of pointed uric acid or oxalate of lime crystals, only single blood corpuscles, which appear spherical and of the most different sizes. As the concretion grows it wounds the surrounding tissues with its rough surface and more marked haematuria appears.

In renal calculus, the haematuria is frequently accompanied by renal colic. Usually only one kidney or the pelvis of one kidney is affected, and filled with calculi, while the other kidney functionates normally, or even works vicariously (compensatorially) for the second diseased organ. Yet sometimes, though seldom, we find both kidneys filled with concretions and parenchymatously diseased. We can often determine from the symptoms of the patient that only one kidney is affected. In diseases of one kidney only, it is only the region of this kidney which is sensitive to pressure, only on this side that the renal colic is severe, and only on this side that the pain follows down the ureter and into the testicle, while the other side presents perfectly normal conditions. This pain often radiates from the region of the kidney to the shoulder, to the buttocks and thigh of that side in such a manner that the patient assumes a skoliotic position of the body. If the pyelitis be confined to one side, and the ureter of the diseased side becomes stopped up, either by the calculus itself, by a coagulum or by a kinking of the ureter, we can always positively decide whether the other kidney is normal or not, because in this case the urine can only come from the presumably sound kidney. Several times I was able to determine positively the

condition of the second kidney in such cases. If such a kidney be normal, it will produce normal urine, although perhaps in lessened quantity, and during the stoppage of the ureter of the diseased side we will never find albumen, pus or blood in the sediment.

The urine, in hematuria from renal calculus, usually shows the characteristics of parenchymatous bleeding. The color is reddish brown, often brownish-black or coffee-color; the reaction acid and the sp. gr. generally high. Albumen and blood-coloring matter are generally present in large quantity. In the sediment, which consists principally of fluid blood, we also sometimes find blood coagula as thick as a quill and several centimetres long, which are casts of the ureter of the affected side, and sometimes small calculi as large as mustard or poppy seeds, or even larger. Microscopically, besides blood corpuscles of spherical form and different sizes, we find pointed crystals of uric acid or oxalate of lime and single epithelial cells from the kidney.

The cylindrical blood coagula sometimes contain calculi; therefore it is always advisable to press them between the fingers and examine them carefully.

Marked symptoms of calculus, with a negative result, on exploring the bladder with sounds, confirm the diagnosis made by the aid of the examination of the urine.

Hæmaturia mostly occurs after some exercise of the body and disappears during absolute rest, as has also been noticed in calculus in the bladder. The urine always contains more albumen in solution than would be proportionate to the amount of blood in the urine, and even in the periods where only single blood corpuscles can be found with the microscope, we usually discover a plainly visible layer of albumen on using the nitric acid test.

In renal calculus, the hæmaturia is usually greatest at the commencement of the lesion; when pyelitis (suppurative) has once set in, the bleeding becomes less and less, and can only be discovered with the microscope.

4. *Renal Hemorrhage from Thrombus* of the renal veins frequently appears in nursing children, who are suffering from intestinal catarrh. We recognize the condition by the child's becoming icteric, and the quantity of urine is greatly decreased. The urine has a dirty brown or even greenish-brown color, reacts acid and contains a large amount of blood-coloring matter and albumen. In the sediment are found many hemorrhagic (brown-colored) epithelial cells from the kidney, blood corpuscles of different sizes and single so called blood cylinders, which are merely blood corpuscles packed or pressed together in the form of cylinders.

The infant soon dies after the beginning of this hæmaturia. The autopsy shows us that, besides the thrombi in the veins of the kidneys, the kidneys themselves are enlarged and bluish-black in color. Under the microscope the uriniferous tubules are found filled with cylinders consisting of blood corpuscles packed together. The cause of this formation of thrombi is probably to be found in the catarrh and ulcerative processes in the intestines.

Similar conditions also occur in adults: in general cachexia, puerperal fevers, in uterine and crural phlebitis, in wounds of the kidney, and in the thrombi due to compression by tumors located in the neighborhood of the hilus renalis.

5. *Hemorrhages from New Growths in the Kidney* have very few characteristic points. Cancer is the most important of these neoplasms. We find medullary carcinoma, sarcoma, scirrhous and sometimes mucous cancer in the kidney. They are usually confined to one kidney and appear primarily most frequently in childhood. In the region of the kidney we are able to feel a tumor with an uneven surface and hard in con-

sistency, and from the size of a child's head to that of a man. It is movable, and not unfrequently its weight carries it down into the pelvis. Hæmaturia very seldom complicates these tumors of the kidneys in infants or children, while, as a rule, it does in adults.

In very small children we sometimes have these renal cancers, filling up nearly the whole of the abdominal cavity, and yet neither albuminuria nor hæmaturia can be discovered. In fact, nothing abnormal can be found in the urine of such infants.

In adults, on the contrary, hæmaturia is a common phenomenon in cancer of the kidney. There is very little pain in the kidney, and the urging to urinate is never so painful as in calculus and new growths in the region of the neck of the bladder, and the genitals are not sensitive. The patient gradually becomes anæmic from the hemorrhage and finally the cachexia develops.

The urine is sometimes blood-red, and at others brownish-red or dark brown, according as the hemorrhage originates from the rhesis of larger vessels or from parenchymatous bleeding, and is acid. Much albumen and blood-coloring matters are in solution. The sediment consists principally of fluid blood; still there are sometimes long, worm-like coagula, which are casts of the ureter. Microscopically we only find blood corpuscles in the sediment. Cancer tissue and cancer-cells or anything else characteristic of carcinoma, are not to be found. Portions of the tumor can only be discovered when it has perforated into the pelvis of the kidney.

6. *Hemorrhage from Tuberculosis* of the kidney and pelvis of the kidney is usually slight and parenchymatous, yet it is sufficient to give the urine a dirty reddish-yellow or even a brownish-red color. There is but slight urging to micturition accompanied by little or no pain in the act. The bleeding does not cease during rest, and thus we have a difference between it and that from urinary concretions.

In summer and in the country they become better, and may even completely disappear, and return again in winter with their usual violence. Tuberculosis of the lungs is also usually present, and the improvement or aggravation of the condition in the lungs is accompanied by like conditions of the affection in the kidney and pelvis of the kidney. Such patients frequently experience a spontaneous (*i. e.*, without any known cause) hard infiltration of the epididymis and testicle. This sometimes goes on to suppuration, destroying the testicle and leaving a persistent scrotal fistula. This hard swelling of the testicle is not painful and presents no acute inflammatory process. We also occasionally find such patients presenting scrofulous scars on the sides of the neck, and extensive cicatrices in the bones, as indications that scrofulous processes have previously existed. Not unfrequently we also observe rectal fistula and periostitis. The urine shows the characteristics of a pyelitis with parenchymatous hemorrhage; and occasionally waxy cylinders are seen in the sediment.

It is colored a dirty, brownish-yellow, and is acid, and contains much albumen and considerable blood-coloring matter. The sediment is brownish, finely flocculent, and consists principally of blood and pus mixed with much molecular detritis, as well as bacteria and sometimes single epithelial cells from the kidney, and waxy or short, thick, dark granular cylinders.

7. *Hemorrhages from Traumatism of the Kidney* are usually very profuse and threaten speedy death. The urine shows the characters which are usual when much blood is mixed with little urine. Sometimes we can find large bayonet-shaped

coagula, and with the microscope we can find nothing but blood corpuscles in the sediment.

V. Hemorrhage from the Whole Urinary Apparatus.—Bleeding from the kidney, pelvis of the kidney, ureters and bladder usually arise from some anomaly of the blood-vessels in general, and especially of the blood, or from such a condition of the vessels of the urinary apparatus. The urine, in the first case, usually has the characteristics of haemoglobinuria, while in the second the symptoms of parenchymatous hemorrhage come to the front.

Haemoglobinuria, without pain and urging to urination, is found in haemophilia, sometimes in scorbutis, in purulent and severe typhus fevers, in processes causing dissolution of the blood, after inhaling the fumes of arsenious acid, and carbonic acid gas. I have also observed haemoglobinuria in cases where large quantities of blood had been transfused from animals. From this it seems that animal blood cannot be well tolerated by the human organism, and because of this it appears to be eliminated through the kidneys in solution as haemoglobin.

At the same time, I also found small ecchymoses on the skin, varying in size from that of the head of a pin to that of a pea, which were caused by the extravasated blood.

The urine appears reddish-brown or brownish-black, and most strikingly like black coffee. Its reaction is acid, and it contains large quantities of haemoglobin and methaemoglobin in solution. In the sediment we find brown molecular detritus and single hemorrhagic kidney epithelia or brown cylinders.

Not unfrequently there is a combination of haemoglobinuria with parenchymatous hemorrhage, in which condition we not only find a large quantity of haemoglobin in the urine, but that the sediment contains spherical blood corpuscles of different sizes, although they may be few in number. I have observed such a hemorrhage, for two years, in the urinary apparatus of an old lady, without urging to urination and without pain on voiding the urine. It has already lasted seven or eight years, and is always increased at night, less by day, when, indeed, it may be entirely absent. It becomes better in the country during the summer and may vanish for several months, to return again in winter. The patient appears well; she is neither anaemic nor cachectic, and has merely a dull pain in the region of the hips and shoulders. Symptoms of calculus are not present, and no indications pointing towards a new growth can be found, and the exploration with the sound gave a negative result. I believe that in this case there is some anomalous condition of the walls of the blood vessels of the urinary tract (atheromatosis.) The fact that she is better in summer and worse in winter somewhat confirms this opinion, yet I can discover no symptoms of atheroma of the heart or larger vessels.

Excessive hemorrhage from the whole urinary apparatus sometimes occurs in lesions of the bladder with thickening of the muscularis, or in hypertrophy of the prostate, if the bladder be completely emptied suddenly by catheterization.

As the urine cannot be spontaneously completely voided from the bladder, it collects in the bladder and extends into the ureters and pelvis of the kidneys, and thereby produces a strong pressure against the secretory apparatus of the kidney by its weight. The pressure, of course, increases as more urine collects in the bladder and ureters. In order to overcome this, the kidney must work harder, the pressure causing filtration in the glomeruli must be increased. If, under these conditions, which last years, as they have developed gradually, the whole quantity of urine be drawn off at once by catheterization, there not unfrequently occurs a cysto-pyelitis.

litis with excessive parenchymatous hemorrhage a few days afterward. The relations existing between the different pressures within the apparatus are changed suddenly; the kidney becomes relieved from the pressure of the urine within the tubules and the walls of the bladder. There is developed a synchronous hyperemia *ex vacuo*, which must be all the more marked in proportion as the walls of the bladder are thickened and hypertrophic, and therefore show but little tendency toward contraction. In the most favorable cases this hyperæmia *ex vacuo* causes a purulent cysto-pyelitis; sometimes also parenchymatous bleeding in the whole apparatus, and in severe cases a nephritis suppurative, or parenchymatous cystitis with the formation of abscesses. Death occurs with chills, oliguria and uremic symptoms.

In such cases the urine is reddish-brown, and is neutral or weakly alkaline. It contains much albumen, blood-coloring matter and carbonate of ammonia. The greater portion of the sediment consists of fluid blood, or of blood mixed with pus. Microscopically there are sometimes crystals of triple phosphates, single epithelial cells from the bladder or kidneys, and sometimes short, thick cylinders from the kidneys, consisting of bacteria or of coarse granular masses. The blood corpuscles are spherical and of different sizes, and the pus cells are often packed together as short, thick, cork-like masses, as if they came from the ducti papillari of the kidney in chronic pyelitis.

Abstracts from the "Therapeutische Bemerkungen" of Prof. Ultzmann:

The therapeutics of haematuria is naturally divided into general and special. The general therapeutics does not concern itself with the special cause of the hemorrhage, but is turned to its stoppage when it endangers the life of the patient, and includes the general styptic remedies.

The special therapeutics seeks the cause and applies the local treatment.

General Therapeutics: Absolute rest in horizontal position with the hips elevated. In hemorrhage from calculus this is all that is necessary. Cold cloths or ice bags on the wet cloths applied on the back, abdomen or perineum. Hip baths with ice in the water, for a very brief time, in vesical hemorrhage, which can also be treated with cold injections or with Atzberger's apparatus. The latter is a hollow sound, so arranged that water flows in through one tube in its interior and out through another, thus keeping up a constant stream. Injections of cold water into the bladder are often very beneficial, but must be given carefully. A soft catheter must be used when there is a lesion at the neck of the bladder (papillary growths, varices, etc.). There cannot be any large coagula in the bladder, for these, when present check the hemorrhage, and only temporarily interfere with the flow of urine. Nature will remove them in time, by their acting as foreign bodies in the bladder, setting up catarrh and the production of carbonate of ammonia, which dissolves the coagula. If urging to urinate and inability to do so are present, it is better to give a narcotic or hypodermic of morphine than to try to remove the clots by catheterization.

Prof. Ultzmann recommends extract secalis cornuti and ergotin internally, 10 to 12. Capsules of ergotin each, containing 0.2 grammes, can be given within 24 hours.

Subcutaneous injections of ergotin can be given if the filtered solution is clear—a turbid solution produces abscesses—according to the following:

(1) B Extr. secalis cornut. aquo, aqua dist	5 grm.
1/2 of a Pravaz's syringe-full three times daily.	
or (2) B Extr. secalis cornut.	2.50
Spirit. vini dilut.	
Glycerin. puri	5.75
1/2-1 Pravaz's syringe twice daily.	

or (3) B Extr. secalis cornut.....	3.00
Glycerin. puri.	
Aqua dist.....	7.50

$\frac{1}{2}$ Pravaz's syringe three times daily.

Of these, No. 3 is the best. Internally he gives alumina crud., ferri sesquichlorat. dilut., sulphate of iron and millefolium. If there is anaemia, dialyzed oxide of iron, china, tannin, acetate of lead, ratanhia, etc.

In long-continued vesical hemorrhages from papillomatous tumors, much benefit is derived from injections into the bladder of nitric acid sol., or of ferrum sesquichloride. They can sometimes be cured by persistent intravesical injections of sesquichloride of iron or by the internal use of ergotin.

Hemorrhages from fissures, etc., of the neck of the bladder may be controlled by narcotics, or better by the local treatment by astringents, as solutions of zinc, alum or tannin.

Hemorrhages from the urethra require cold compresses, astringent injections or compression of the penis.

The kidney has been extirpated by Simon, Wolcott, Kocher and Langhaus, but every case was fatal.

Incisions of the kidney and into the widened pelvis of the kidney, for the removal of calculus, have been successfully performed.

New growths in the bladder, especially pedunculated tumors, fibrous polypi, have also been removed, both by cutting and by lithotriptic operation. In females, rapid dilatation of the urethra makes the removal of tumors of the bladder much easier. If the tumor be broad and spread out, a vesico-vaginal incision must be made. Calculi and foreign bodies must be removed *lege artis*.

RESORCIN AS A DRESSING.—This new remedy promises to become not only the most popular remedy for a number of ailments, but also to take the field as a dressing for chancre, chancroids, mucous patches, etc. It is said to be more efficient than iodoform, while it is free from the unpleasant odor of that drug. It may be applied in powder or in twenty-five per cent. solution of water.

SCLERODERMA IN THE ADULT.—Dr. Nicholich, of Triesta, terminates a long article in *Lo Sperimentale*, for October, with these conclusions:

1. Scleroderma is a special inflammation of the dermis and subcutaneous conjunctival tissue, which also attacks the mucous membrane of the mouth and of the vagina, and pursues a slow course, commencing with hyperplasia, and terminating with atrophy of the parts attacked.

2. This inflammatory process is in all probability secondary to trophic nervous changes.

3. It may invade the skin of the entire body, but the upper half is most frequently affected.

4. Females are more predisposed to it than males, and it is met with at all ages, but principally between the twentieth and thirtieth year.

5. The most frequent occasional cause is the action of cold on a sweating skin, or simple overheating.

6. The cure of the disease is only possible in its first stage, but material improvement may be obtained in the second stage.

7. Massage and electricity are the means from which the best results have been obtained.

STIGMATA MAIDIS.—Corn-silk is an emollient, antiseptic and diuretic. Under its lenitive action the inflamed surface of the genito-urinary tract, and more particularly, perhaps, of the bladder, as in vesical catarrh, is soothed, and the decomposition of urea into the irritant ammonia salts is checked. The flow

of the urine is at the same time augmented, and thus we have a combination of the very effects which an intelligent comprehension of a case of vesical irritation would seem to dictate, on the part of the therapist.

The demand for corn-silk has been rapidly growing since attention was first called to it by Drs. Dassun and Dufau, of Paris, and Professor Castan, of Montpelier. The fluid extract must be made from the recent drug, and hence can be prepared only during a few months in the year. Messrs. Parke, Davis & Co., who were the first to place a preparation of stigmata maidis before the profession of this country, have laid in a large supply of the drug in anticipation of a continuance of its popularity. In view of the facts above stated, it is important that those who may have occasion to employ corn-silk may know whence they may obtain a reliable preparation.

CLASSIFICATION OF BACTERIA.—A demonstration of pathogenic micro-organisms was recently given by Mr. Watson Cheyne, who divided the great group of bacteria into four classes: First, micrococci, (round bodies); second, bacteria, (small, oval or rod-shaped bodies); third, bacilli, (large rod-shaped bodies); and fourth, spirochaetes and spirilla, (rods spirally twisted). He remarked that great differences existed among the various bacteria in their behavior toward the human body. Some could be injected without causing any apparent injury; others could not develop in the living body, but grew and gave rise to poisonous products in dead portions of tissue and the secretions of wounds. True pathogenic organisms were able to attack the living body and multiply in it; and these included those which found entrance through some wound, giving rise to the traumatic infective diseases, and others which could find an entrance without any observable wound. Certain organisms, such as the bacteria anthracis, were capable of growing outside the body in dead organic substances, while others, such as the bacteria tuberculosis, were apparently capable of development only in the living organism or under artificial conditions, which reproduced to some degree those existing in the tissues of warm-blooded animals, though capable of long retaining their vitality in the dry state. Sir Joseph Lister added the important suggestion that as the bacillus which caused septicemia in the house mouse was unable to produce any deleterious effect on the field mouse, owing to a very slight difference in the blood of these two animals, it was possible to conceive, that by the administration of some medicines, sufficient alteration might be produced in the blood of the human system to kill off or arrest the development of any special bacteria on the first appearance of the symptoms of the disease in the patient.

INFANT FEEDING.—Infants should never be fed from a bottle, but always from spoon or cup. This is the only way to keep them from being overfed, which, with the refusal to them of a free supply of water, that idiots still practice, kills three-fourths of the hand-fed children that die. Always water should be offered before milk is given, otherwise, to quench thirst and not from hunger, they will drink more of the latter than they can digest, and a belly full of trouble will ensue.

DIAGNOSIS BETWEEN BELLADONNA RASH AND SCARLATINA.—Dr. S. R. Sperry (*N. Y. Med. Record*, March 1, 1884).—A girl aged three years was ordered to take for a sore throat one minim tr. belladonna every hour. After having taken four doses, Dr. S. was called to see her, being told that she had broken out with scarlatina. He found her crying with intense irritation of the skin. The rash was decidedly punctate, which Bartholow states to be diagnostic of belladonna rash.

TONGUE IN HEALTH AND DISEASE.—Dr. A. W. Wallace condenses, in the September number of the *Midland Medical Miscellany*, Dr. Beale's remarks on the tongue, as contained in his admirable little work on slight ailments. A healthy tongue is best known by negative characters, rather than by what it is. In order, therefore, to define the healthy tongue, the following conditions are to be excluded: First, the creamy white tongue, which denotes unremoved epithelium and metabolism of tissue in abeyance. Second, the furred tongue, in which the papillæ are elongated, and to which the epithelium adheres in long threads; this tongue is characteristic of inflammation. Third, the pale, sodden, tooth-marked tongue, which is indicative of anæmia. Fourth, the red tongue (*a*) with enlarged papillæ, as seen in the "strawberry tongue" of scarlatina; (*b*) the smooth and glazed, as in the "irritable tongue," which corresponds to the irritated mucous membrane elsewhere, as in the lung from phthisis, or intestines from diarrhoea. Fifth, the dry, brown tongue, pathognomonic of the typhoid state, in which blood exudes and dries on its surface, the secretion of saliva being nil. Sixth, the aphthous tongue, which is often followed by punched-out ulcers. This condition of the tongue is not particularly significant of any constitutional disturbance. It is more properly a local affection, and is to be treated with the *chlorate of potash*. And, seventh, the red, fissured tongue, which is generally called syphilitic. Dr. Beale, however, says that this is not necessarily syphilitic, although he has found that the exhibition of the *iodide of potassium*, with or without small ($\frac{1}{2}$ of a grain) doses of *biniodide of mercury* is the most successful treatment.

TOXIC ACTION OF CONVALLARIA MAIALIS.—Dr. George Herschell relates, in the *Lancet*, the case of a man, apparently healthy, who had an irregular pulse following worry and overwork two years ago. Physical examination failed to reveal any cardiac lesion, and all the other organs were healthy. The patient had been taking *digitalis*, but this was discontinued, and after an interval of a month or two, *tincture of convallaria* was ordered in five minim doses three times a day. After a few doses he was obliged to stop its use on account of its remarkable effects. Almost immediately after taking a dose the pulse became nearly imperceptible at the wrist, and there was a sense of oppression over the sternum, nausea, cold feet, vertigo, flatulence, and a feeling of utter prostration. These symptoms lasted two hours, but came on again at each repetition of the dose.

PACKING-HOUSE WOUNDS.—Under the above title Dr. Amford, of Chicago, in a recent number of the *Physician and Surgeon*, calls attention to the bad consequences which often follow slight wounds from the sharp knives used in the great pork-packing establishments in that city. As a rule, clean-cut wounds made by a sharp instrument heal readily by first intention. But the wounds made by the packers' knives, which are almost invariably on the hand or forearm, do not heal in this manner, and, if of sufficient depth to divide the skin and injure the cellular tissue beneath, are often followed by spreading inflammation and suppuration. The cause is probably the action of minute organisms conveyed into the wound by the knives, which are rarely cleaned with care, and never disinfected. If the cause of the peculiar results of these wounds is septic material on the knife due to want of cleanliness, it would seem that some simple precautions, such as leaving the knives in a disinfectant solution, would be useful. If, however, the poison is derived from the skins of animals just killed, so that the knife is receiving fresh admissions of virus whenever it is used, such attempts at disinfection would be useless.

HYDRASTIS CANADENSIS.—Dr. Kurz, of Florence, speaks in favorable terms of the action of this drug in profuse menstruation coming on at regular or irregular intervals. He gives fifteen or twenty drops of the fluid extract three times a day, commencing a week before the expected period.

INGROWING NAILS.—Pure *carbolic acid* does better than any other remedy for ingrowing nails. The 95 per cent. acid runs in between the nail and the irritated flesh, and allays the irritation. In every case where it has been used, the *Boston Journal of Chemistry* reports that the pain ceased at once, and immediate recovery ensued.

INCOMBUSTIBLE PAPER.—M. G. Meyers, of Paris, is stated to have invented an incombustible paper, which, in addition to its power of resistance to extreme heat, has the merit of preserving its normal appearance under the action of fire. The utility of such a material is obvious. Among other purposes to which it may be advantageously applied, is the construction of non-inflammable theatrical scenery.

DIFFICULT DENTITION AND THE USE OF THE GUM LANCE.—The treatment of cases giving evidence of difficult primary dentition should, of course, be governed by a careful consideration of that process itself, as well as by the character and severity of the symptoms manifested in each individual case.

Whatever means give reasonable promise of raising the tone of the system, may cause the disappearance of reflex symptoms, whether produced by dental irritation or by other causes. Hygienic measures are always to be considered. A change of location giving lower temperature and other favorable circumstances is often beneficial. Change of diet may be indicated, and therapeutic measures judiciously directed to meet the symptoms of the case, will often be all that is needed to cause the latter to subside, and enable the processes of development to progress more harmoniously.

There are instances, however, in which all such means are insufficient; in some such cases the *gum lancet* affords the means of rendering the most prompt and efficient relief. Its use is clearly counter-indicated in such stages of teething as when the advancing teeth are probably obstructed by alveolar tissue, but when the enlarged gum indicates both to sight and feeling the presence of the tooth beneath it, when the former tissue has a tense appearance (whether it is sore, swollen and red, or not), with the disturbances above referred to, which more general treatment has failed to relieve, a free incision through the gum to the tooth, with a sharp lancet, will in most instances be promptly followed by very marked amelioration of all symptoms of irritation. The instances in which gum lancing is not followed by relief, when it has been indicated by the conditions and symptoms, are so rare that it may be regarded as one of the most certain and effectual of minor operations, and so far as we know is counter-indicated only by a hemorrhagic diathesis.

The objection urged sometimes, that the gum will be made much harder if it should heal by the formation of a cicatrix, and the temporary relief hoped for be followed by an aggravation of the difficulty of absorption of the gum, is invalid, from the fact that a cicatrix is not found after gum lancing, and if there should be a formation of cicatricial tissues it would absorb more readily than the primary tissue.

The valid objection to the lancing of the gums of teething children is the almost indiscriminate practice of it, which is believed to be falling into disuse. But judicious gum lancing, practiced with discrimination and judgment, not for the purpose of depleting a congested gum, but to release an

imprisoned or obstructed tooth the pulp of which is irritated, is both reasonable and commendable, and its value should not be overlooked.—J. MORGAN HOWE, *Independent Practitioner*, Nov., 1883.

WHOOPING COUGH.—*Eucalyptus globulus* has produced marked relief in this painful disease, very materially modifying the effect of the paroxysms.

RHEUMATIC GOUT.—Dr. Senier, of Waukisha, publishes in the *Medical Review* two cases of rheumatic gout quickly cured by teaspoon doses of lithiated hydrangea, largely diluted with water, and given three times a day. He attributes the results to the formation of soluble urates with the benzo-salicylate of lithia, by which, with the diuretic action of the hydrangea, the system was freed from excess of uric acid.

ALBUMINURIA.—At a recent meeting of the Société de Médecine, of Paris, M. Cognard reviewed and criticised the theories concerning albuminuria, and asserted, from his personal observation, that physiological albuminuria does not exist, and denied that albumen is ever found in the urine of perfectly healthy individuals.

STONE IN THE BLADDER.—Dr. Dumont has examined the statistics of the Caen Hospital, and found that in fifty-nine years only four cases of stone in the bladder were admitted, and of those two were wine drinkers, the ordinary beverage in Normandy, where the hospital is located, being cider. It has been remarked in New England, since the production of cider has almost disappeared, there has been a very marked increase, not only of stone in the bladder, but of rheumatism.

GLYCERINE IN SKIN DISEASES.—Dr. Desguin, of Antwerp, gives glycerine internally in certain forms of skin disease, with, it is said, marked success, especially in acne punctata and the furuncular diathesis. He commences with four drachms daily, and gradually increases the dose. He states that the secretion of the cutaneous glands, which is thick and irritating in these diseases, becomes more liquid, and cutaneous irritation is notably lessened. During convalescence from scarlet fever he believes that it facilitates desquamation.

TRACHEOTOMY FOR DIPHTHERITIC CROUP.—Dr. E. T. Rulison, in *Medical Annals*, (January, 1884), endeavors to prove that this operation should not be confined to isolated cases of so-called membranous croup. The tube, he maintains, should never be used. Cellulitis, or broncho-pneumonia, or both, are sure to attend its use. His mode of procedure is to cut three rings of the trachea and suture the skin to the trachea passing through the rings. The upper and lower ones are cut short, but the middle ones are left of sufficient length to tie back of the neck. This leaves a small wound, and makes it very easy indeed to remove all the secretions, the membrane in particular. There is no particular time for removing the sutures, the condition of the parts being the only guide. The real work begins after the operation, and requires the utmost vigilance on the part of the attending surgeon, and the untiring faithfulness of the nurse.

The writer thinks the time will soon come when tracheotomy for membranous and diphtheritic croup will be classed among the safe and almost certain procedures in the treatment of disease.

TREATMENT OF VARICOCELE.—Books and teachers of surgery constantly or customarily warn us not to mistake a varico-

cocle for a hernia and aggravate it by the employment of a truss. Now, the fact is that the best of all treatment for this wearing and wearying affection is a weakish truss. It has never failed in my hands, and I have used it scores of times, not only entirely or greatly to relieve the sufferer, but, by continued application, to effect a permanent cure, save in very aggravated cases. The theory of its operation is that, pressing upon the spermatic veins, the pad takes the place of the deficient valves, supporting the superincumbent column of blood which their defection has let wearingly down upon the sensitive parts below. This particular of practice is the more important because the ailment is one that makes a man "feel bad all over," and argues to the mind of the patient, and not seldom of his surgeon, a variety of diseases that have no existence. When the bars of honor in our profession are still further let down, and the "go as you please" principle becomes our law, I propose to advertise a list of the cases of Bright's disease, heart disease, dyspepsia, hypochondriasis—in fact, almost everything but retroflexion of the womb and fissure of its os—that I have cured by the gentle pressure of a truss on the spermatic veins where they pass over the pubic bone. I was my own first case.—C. C. P. Clark, *N. Y. Med. Jour.*

PHYSIOLOGICAL ACTION OF MURIATE OF COCAINE.—In my observations and experiments, I find that the active principle of the leaves of coca is the remedy which possesses the wonderful properties so concisely described by a number of authors. It contains the qualities to enable individuals, even when small doses are given, to endure long marches, to suffer hunger and cold to an extent that would not be possible without the use of it. Therefore we must consider muriate of cocaine a direct nourishment for the nervous system. I had an opportunity of making observations with cocaine on troops that were being drilled. The subjects were exposed to the inclemencies of the weather, both hot and dry, and received doses of muriate of cocaine without their knowledge, thereby giving me an opportunity to make objective observations that were not influenced in any respect. I employed the remedy in solutions ranging from 0.01, 0.05, 0.1, 0.5 gr. to 10 gr. of water.

Aside from these cases, I employed cocaine often in exhaustion due to diarrhoea, which occurred quite frequently, with the very best results.

I do not claim much exactness for my records, nor did I pay much attention to dosage, but the physiological action of the drug was clearly demonstrated, and its value under the circumstances where I employed it cannot be over-estimated.—Theodore Aschenbrandt, *Deutsche Med. Wochenschr.*

POISONING BY THAPSIA.—Mr. F. M., of a nervous temperament, rather delicate constitution, purchased a thapsia plaster, which he applied to his abdomen for the relief of a sensation of soreness remaining after an attack of diarrhoea. A few hours after the application of the plaster, his abdomen and chest became covered with a coarse miliary rash, partially vesicular, and attended by intense stinging and itching, soothed by contact, but followed afterwards by burning. Having most probably conveyed some of the substance from the plaster by means of his hands to his eyelids and prepuce, these parts became greatly swollen, the former so much as to nearly close his eyes, while the prepuce attained an inch in thickness. The external application of dilute tincture of camphor, together with the internal use of rhus tox., was followed by speedy relief. I have since heard of several similar cases.—E. W. Gossewitz, in *Hahn. Monthly*.

EXTIRPATION OF THE KIDNEY.

Translated from Prof. Billroth's paper, read before the Medical Society, in Vienna,
By DR. JOHN L. DANIELS.

FOR a number of years we have known, from dissections, that man can live with but one kidney, and it was also settled by physiologists that the removal of the kidney could be overcome, even in large animals. Still, it is only fifteen years since Simon ventured to apply this experience to the good of suffering mankind. Although this first operation was a success, still that is only to be viewed as a happy accident, for the means used to overcome the great difficulties attendant upon wounds of the peritoneum were in no way as favorable as those of to-day. The progress in the antiseptic treatment of wounds has also powerfully advanced the success of the extirpation of the kidney. The difficulty, however, to make a sure prognosis still remains. The possibility of success presupposes always the ability of the remaining kidney to completely perform its physiological function, and in this lies the weak point in extirpation of the kidney. A moderate degree of blood poisoning might be easily overcome in a patient with two healthy kidneys, and yet prove fatal in a patient with but one kidney, and that perhaps not healthy. He who has made a great many dissections will certainly be governed by the impression that it is very rare to find but one kidney diseased, and that it is therefore seldom that one has an opportunity to perform this operation. This was also the prevailing opinion, which the surgeons entertained while making the highest acknowledgment of the work of Simon. We accepted the first extirpation of the kidney more as a curiosity, and few of us then expected that nearly 150 operations would be published. The operation is still too new to furnish any reliable statistics, aside from the fact that statistics form an especially unsafe, if any, basis. Extirpation of the kidney, considered as a surgical procedure, is, besides, much too heterogeneous to find any prognostical worth from such statistics for an individual case. There is a great difference technically, as well as in regard to the loss of blood and other important circumstances, whether we remove a healthy kidney on account of a fistula of the ureter, or whether we remove a small or large tumor from the peritoneal cavity, or from the lumbar region. One must further take into consideration that the surgeon is justified in performing this operation only in those cases where the disease is already very far advanced, and the life of the patient threatened. It happens, therefore, that the very worst cases under all circumstances alone are operated upon. Every new and bold operation also possesses a certain fascination for the public, the physicians and the surgeons. If I had operated on all the patients that came to me, either from their own will or from the advice of their physicians, suffering from cancer of the stomach, I would have made this operation ten times oftener. And thus have been made extirpations of the kidney which it would have been better not to have performed. The technical difficulties also exercise a certain charm, which is powerfully supported by the desire to do all that is possible in the most doubtful cases and by the uninterrupted supplications of the patient for help or relief from his suffering. The surgeon often has to endure an internal struggle, and more so when he is placed before a task whose solution has not yet been attempted. When one, as it often happens to me, sees for weeks long an incurable case, one will easily comprehend why one seizes the most extreme measures, although with only a faint ray of hope. The lamentations and supplications of the patients and their friends, "Help us!" "Save us!" "Do what you will!" influence us the more the older we grow. All these circumstances make it clear why the statistics of new operations cannot give us any useful information for the prognosis. It should not be forgotten, however, that the death or recovery of the first 100 cases operated upon bears a very important relation to the future of an operation. Dr. Schüssler, at my request, has collected, with the aid of a paper published in Dorpat, by Dr. Bolz, all the recorded cases of extirpation of the kidney, which are added to almost every week. The result is 132 cases, with 62 deaths and 70 recoveries, making a mortality of nearly 47 per cent. These figures, as before remarked, have for the prognosis of an individual case, absolutely no value. They only show that a little more than a half of the cases operated upon may recover; therefore extirpation of the kidney from the side of

the statistics is admissible. As the technical part of this operation can have but very little interest for most of you, I will only make a few remarks about it in closing. Of the most importance to the clinical judgment of this operation are the indications and disturbances that have caused it to be made. It appears to me self-evident that we should exclude when forming a clinical and prognostical judgment of this operation, a certain class of cases that I would describe as accidental extirpation of the kidney. If we include in this category all the tumors which were diagnosed before the operations as ovarian tumors or fibroids of the uterus, the number would be very large. Still, I will not go so far, but only include those cases where any kind of a tumor, at the end of the operation, proved itself to be so adherent to the kidney that this was also removed, because it was impossible to stop the profuse flow of blood from the cut surface of the kidney. This has happened to more than one English surgeon, and to me once.

If we consider the extirpation of a healthy kidney, we have three indications:

I. Removal of a kidney dislocated from traumatic causes. This operation, so far as I know, has only been performed three times, namely, by Brandt, Marvaud and Cartwright. Two cases of removal of the kidney are included by Bolz under this category, but which I regard as belonging more to a special class of hemorrhages and suppurations of the kidneys. These cases were operated upon on account of gunshot and punctured wounds of the abdomen, by Dr. Rawson, in England, and Dr. Bruns, in Germany. I place them in this special category, as they were operated upon after profuse hemorrhage or suppuration had set in.

2. Extirpation of a healthy kidney on account of an incurable fistula of the ureter. It was, as before mentioned, first performed by Simon. As the cases operated upon for this reason are so different they must again be divided into three groups:

I. Simon, Le Fort and myself operated on account of fistulae of the ureters originating from traumatic causes.

II. Stark and Bardenheuer, on account of ureter-vaginal fistula, originating from carcinoma of the uterus and vagina.

III. Zweifel, Crédé, Czerny, and Stark, on account of ureter-vaginal and ureter-uterino fistulae. Of these nine cases six recovered and three died, after forty eight hours, in collapse. My patient died on the eleventh day after the operation from marasmus and anaemia, with a not entirely healthy remaining kidney. As it has not been published, and offers some interesting points, I will communicate it here. On the 9th of July I removed from a healthy, but poorly-nourished woman of 40, both ovaries, on account of large multiple cysts. The tumors were on all sides adherent, and the largest part retroperitoneal. The operation was one of the most difficult I have ever made, and as a secondary hemorrhage appeared, I had very little hope of the patient's recovery. For three days she had repeated attacks of vomiting, and meteorism had already set in, but at the end of the third day all these unfavorable symptoms disappeared. The course of the case was without fever, and everything appeared favorable. Toward the end of the second week, when the wound from the operation had already healed, there appeared in the left side, a little above the spine ant. sup. crist. oss. il., a little pain, and shortly after a swelling, which became more and more distinct. I considered it an abscess, as so often happens after difficult ovariectomies, and was not a little surprised when I, eighteen days after the ovariotomy, obtained, by an incision, about a pint of a clear, white serous fluid. It appears strange to me that an abscess should remain eighteen days serous without a trace of blood. I knew, however, now other signification, introduced a drainage tube, and fostered the suspicion for some days longer that it might be one of the remaining cysts. The secretion from the drainage tube soon manifested a urinous odor. It then became clear that the ureter of the left side had been ligated, and after the cutting through of the ligature, at the end of the second week, through already organized exudation, a circumscribed urinal reservoir had been formed. Why was it that the patient did not have violent pain in the lumbar region, as is often the case after ligation of an ureter? Why was it that the vomiting ceased so soon? Was only one wall inclosed in the ligature, or was the ureter constricted by the pressure of some neighboring ligature? That the ureter, during the operation, was entirely cut through, is hardly to be believed, for, after the course of the case, it must be concluded that the urine had emptied itself for eighteen days into the peritoneal cavity. The patient recovered day by day. The ureteral fistulae flowed incessantly, as in the case of Simon's.

It was a terrible condition. Something must be done; but what? We thought of the extirpation of the left kidney, but could not decide to risk such an operation in a woman who had just undergone so difficult an operation as ovariotomy. This thought increased as, after high fever, an abscess broke into the vagina in the fourth week after the operation, which healed very slowly, and from which the patient became very anemic, but she again recovered. As I considered it possible that the upper part of the ureter was open, and a closure of the peritoneal fistula not inconceivable, I had Dr. Pawlik undertake the sounding of the ureter, in order to learn if urine passed through the left ureter into the bladder. Dr. Pawlik began this difficult examination on the 20th of October, and performed the same with much care. Although almost three months had passed since the operation, still the patient was so weak that she could not bear these frequent examinations. Often appeared more or less peritoneal irritation and fever, so that it was many months before we obtained a clear idea of the anatomical circumstances. First of all, it was found that the right ureter performed perfectly its duty. The left ureter, on the contrary, was only open for a short distance, and consequently no urine came from the catheter. We supposed that the obstruction was due to a not entirely absorbed exudation. When we allowed a catheter that completely closed the right ureter, to remain for some hours, we still found a little urine in the bladder. From this we concluded that the left ureter was also open and communicated with the urine reservoir. After much trouble we passed the catheter so far that urine began to drop. We then commenced to pass sounds into the ureter in order to widen the opening and thus facilitate the flow of urine into the bladder. This treatment was carried out with much care by Dr. Pawlik. The patient had repeated attacks of peritonitis, and in February, 1883, her life was in such danger that I decided on the extirpation of the left kidney. I undertook the operation very unwillingly, as the patient had become very anemic from her long suffering (July, 1882, to March, 1883). The urine contained at times albumen. On the 3d of March, 1883, I removed the left kidney in the usual manner. For three days after the operation she vomited all she ate, and only on the fifth day she retained some food. The improvement did not continue long; she became weaker day by day, lost all appetite, and was very drowsy. On the eighth day the iodoform gauze was removed from the wound. Peritonitis was not present and very little secretion from the wound. On the ninth day the patient became gradually unconscious, and died on the night of the eleventh day, with twitching of the muscles of the face and extremities. During the last 24 hours very little urine was secreted. The autopsy showed the right kidney to be very large, pale-yellowish, soft and succulent; capsule not adherent. The autopsy did not show any special cause for death. Death was, without doubt, due to general weakness and anemia. It is possible that the issue would have been different had I operated sooner.

3. Removal of a healthy movable kidney, the so-called floating kidney. At first sight, it appears as if this indication for extirpation of the kidney is like the one first mentioned, but still it is somewhat different. In by far the largest number of cases it occurs in women, generally on the right side—more or less troublesome, and disturbing infirmity, which, however, can be made almost harmless by the application of a suitable bandage. There are cases, however, where the dislocated kidney drags so on the stomach as to produce the most violent nervous irritation, leading even to inanition and marasmus. The physicians in Kalsbad are very well acquainted with this disease, because patients are sent there on account of it, under the diagnosis of a gastric catarrh, or a nervous dyspepsia, or even carcinoma of the stomach.

We cannot explain why the issue is so favorable in one case, and in the other so unfavorable, nor can we, in the beginning of the disease, make a sure prognosis.

A very difficult case of floating kidney, the only one on which I decided to operate, was as follows: There came to me a woman of 28, with the diagnosis of her physician, cancer of the stomach. About three years previously she began to suffer from dyspepsia, which became gradually worse and worse. When she came to me she was so anemic and weak that she could hardly stand. Until a week before she could, with some exceptions, retain her food, but since that time she had not been able to keep anything on the stomach. As I could easily feel a sensitive, movable tumor over the pyloric end of the stomach, I thought I must agree with the diagnosis of her physician, but still I felt somewhat doubtful over my first diagnosis, as

I examined her under ether. As I had not had any individual experience in this disease, and could not believe that a floating kidney could produce so intense a disturbance of the nutrition, and especially the long-lasting vomiting. I supposed a stenosis of the pyloric end of the stomach. On the 17th of August, 1881, I opened the peritoneal cavity, in the usual manner for resection of the pyloric end of the stomach. The stomach and duodenum were not diseased, but the right kidney placed itself on the wound. As the pulling which the dislocated kidney exercised on the pyloric end of the stomach was the only apparent cause of her trouble, I removed it, and closed the wound in the peritoneum in the usual manner. The operation did not last long, nor was the loss of blood great, but collapse set in, which, however, was overcome by the injection of oysters of wine, and the application of warmth to the extremities. During the first few days after the operation all went well. Patient took milk, beef-tea, beefsteak, and vomiting did not appear. Certainly a proof that the former vomiting was due to the pulling exercised by the dislocated kidney on the stomach. Yet we did not succeed in building up the patient's strength, and she died on the eighth day after the operation. Death was no doubt caused by the suppuration in the retro-peritoneal connective tissue in the right lumbar region, with, even if moderate, secondary peritonitis and left-sided pleuritis—enough to kill a strong man with two healthy kidneys.

One must not decide to extirpate the kidney in cases where the disturbance in the nutrition is moderate and the suffering bearable. Very anemic patients cannot rally from the operation. Still the statistics for the extirpation of the floating kidney are not so unfavorable. Out of fourteen cases operated upon, eight recovered and six died. Martin, in Berlin, has made the operation seven times, and the other operations have been made by physicians in Germany and America. Twelve cases were by laparotomy, two cases by the lumbar incision. Death was due in some cases to inanition, in others to peritonitis. I consider the extirpation of the floating kidney as only a preliminary stage in the attempts to cure this disease. Unfortunately the attempts of Hahn, in Berlin, to cure the diseases by fixation of the floating kidney were without success. But we must cease to explore further in this direction, contrive new methods for the fixation, or with other means to hinder the pulling exercised by the floating kidney in the stomach.

We now pass to extirpation of diseased kidneys. We have here to deal with suppuration of the kidney, cysts of the kidney and tumors of the kidney. That suppuration of the kidney threatens life in a high degree is known, and likewise, that it seldom occurs on one side. Extirpation of the, from all appearances, least diseased kidney, is to be thought of when this is the case. I have made some operations for pyonephrosis calculosa, and in cases of abscesses of the kidneys, to which I will at another time refer; still I have not seen a case where I decided to extirpate the kidney from the indication. I can therefore only communicate as to this operation what others have done. Czerny considers, from his experience, suppuration of the kidney not of very rare occurrence. He considers it more to the purpose to open the diagnosed abscess from the dorsal region, to entirely empty the cyst and introduce a drainage tube. If the bladder contains then no pus, it is in the highest degree probable that the other kidney is healthy. In women, one can prove whether pus comes from only one or from both of the ureters, by the introduction of catheters. Certainly these are the only methods we can use. Absolutely certain it is not, for I have already repeatedly observed in cases of pyelitis calculosa, such a closure of the pelvis of the kidney, that not any pus passed through the ureter into the bladder. The urine may also be clear and still an abscess be found in the supposed healthy kidney. On the other hand, it is to be thought of, that also, after the establishment of, for instance, a left-sided kidney abscess fistula, pus may be found in the urine and not come from the other kidney. Under these circumstances one would give up the intended extirpation of the kidney, as a disease of the right kidney would be accepted, and yet the patient might still have a lumbar fistula of the ureter, which would materially increase his suffering. Nevertheless, I do not know of any better proposal to make in place of that of Czerny. Extirpation of a suppurating kidney is very difficult on account of the callous adhesions, and it is not always possible to avoid the decomposed pus coming in contact with the fresh operation-wounds. When one considers all these circumstances, one must be astonished that the operation, according to the report

of Dr. Schüssler, has been performed twenty-two times and with only eighteen deaths. Of the latter many lived many weeks, and died at last from inanition, or in consequence of the disease of the other kidney.

I come now to extirpation of the kidney on account of cystic tumors. The indication is disputable. 1. Because they seldom cause death. 2. Because they can sometimes be cured by other methods. (Iodine injections and incisions.) The healing is indeed of a questionable nature, as the possibility of their returning is not excluded. The anatomical relations of the cyst, the relation of its contents to the ureter, the signification of its chemical analysis, in which uric acid and urea are completely wanting, the diagnosis by palpation and percussion—these are all very difficult. It is, as in the diagnosis of all abdominal tumors in general, a contribution to the history of diagnostical errors; and demonstrates *ad oculos* the limit of our science. It is of importance for the success of the extirpations of these cysts that they would not have been extirpated had they not been taken for ovarian cysts. So was it in the case operated on by me and published by Dr. Weißer. The skillful operator is quite at ease in such a case, although the technical part of the operation is very different from what he had expected. In the case mentioned above it was only in the last moments of the operation, when a strikingly large artery, that proved to be the art. renalis, presented itself for ligation, that I became aware that I had removed a degenerated kidney. I sought in vain for the evidently torn ureter, but could not find it, and therefore could not ligate it. Under these circumstances it is to be concluded that urine cannot find its way from the bladder through the ureter into the peritoneal cavity, and perhaps the septic peritonitis, from which my patient died, was due to this fact. How one proceeds with the peritoneum, which must be separated from all retroperitoneal tumors, will be later mentioned. Until now nine cysts of the kidney have been removed, and, as before mentioned, with the diagnosis of retroperitoneal ovarian cysts. Of these six recovered and three died. As you see, the result is not unfavorable, in spite of the prevailing difficulties, and this may be due to the fact that the system was already long accustomed to the secretion of uric acid urea with but one kidney.

We come at last to the extirpation of the kidney on account of tumors. We have here 33 operations, with 20 deaths, and only 13 recoveries. This is the only place where the number of deaths exceed the number of recoveries. Tumors twice the size of one's head, in old people, and enormous medullary sarcomas have been removed, and many of the patients died during the operation. Errors in diagnosis are here also easily conceivable. It appears to me that we have gone too far here. I have had the good fortune to succeed in the two cases I have operated upon. In all I have made six extirpations of the kidneys, and have only two favorable cases to report. As the two cases have not yet been published, I will report them here. A woman of 38, from Hungary, presented herself in my clinic on the 2d of January, 1881. She was large and powerful, well nourished, and had always been healthy. Five years ago she was made aware, by slight but lasting pains, of a tumor in the right side. The pains were for a long time endurable, although the swelling gradually increased. When I saw her the tumor had attained the size of one's head, and was so large that she could not work. I thought I had before me a retroperitoneal fibroid of the uterus or else a tumor of the right ovary. The reasons for this diagnosis would take me too far. I thought of the possibility of the kidney, but a tumor of the kidney of such long growth is very rare. I incised the peritoneum over the tumor and separated the tumor from it. The smooth surface of the tumor showed an astonishing number of large veins, and in spite of all precautions, I did not succeed in separating it without tearing some of the same. I could already raise the tumor, but underneath it was fastened by a thick pedicle. As the bleeding was very profuse, I placed a rubber sling around this pedicle and cut the tumor away. From the cut end of the tumor there flowed a little pale yellow fluid. After all the bleeding vessels were ligated, I viewed the stump more closely, and to my astonishment recognized the somewhat dilated pelvis of the kidney. The stump was compressed above the rubber sling with a pair of large forceps, and its end cauterized. The progress of the case after the operation was very favorable, and the patient was discharged at the end of six weeks, cured.

The second case was a strong and, until his present trouble, healthy man, of 22. On the 16th of February I removed a

large tumor of the left kidney, by the lumbar incision, which Dr. Bierner and myself, after long observation of the case, had diagnosed. His recovery was somewhat protracted on account of previous long and painful suffering. Both cases are examples for the lumbar and abdominal extirpation of the kidney, as to which I have still something to say, but will be as brief as possible, since I have already taxed your time too much.

I agree with Czerny in regarding the extraperitoneal operation, by means of the lumbar incision, as to be preferred, when possible. The separation of a healthy kidney has no difficulties, and the hemorrhage can be easily checked by pressure from sponges. In the separation of a suppurating kidney, one should be very careful and not go too fast, in order that the bleeding vessels can be ligated. The ureter is such a soft structure, and situated so variously in pathologically degenerated kidneys, that one cannot tell when one will meet it. One must therefore separate the entire circumference of the kidney before one comes to the deeper-situated pelvis. Then one should raise the kidney a little in order to ascertain the situation of the ureter and the renal artery and vein. It is of the utmost importance that they are then securely ligated. I regard this as the most important part of the operation. If one tears the renal artery or vein, the bleeding is very profuse, and one must secure the bleeding vessel with the forceps as quickly as possible, in order to save the patient's life. The great cavity made by the removal of the tumor is quickly filled up by the intestines, and also by the sinking of the pancreas and spleen. Over the antiseptic treatment and bandaging I don't care to waste any more words. That in spite of all precautions an abscess may form around the stump is possible, and either break through the cicatrix or into the colon, as it happened in the case last mentioned, and cannot be wondered at after the experience in ovariotomy and hysterotomy. Much more complicated is laparotomy. We must proceed here as in the extirpation of all retroperitoneal tumors, and, where possible, not allow any open wound to remain in the peritoneum. If I am not mistaken, it was Melulicz who first formulated the sentence that the surface of fresh wound excreted more than it absorbed. The bloody serum which is discharged during the first few hours is a fluid especially favorable to the development of bacteria, and the formation of intense septic poison. This was rightly recognized by Spencer Wells and Sims, and led them to the introduction of the drainage tube. Still, the removal of this fluid is not always an easy task. From the great variety of tumors occurring in the abdomen and from the uncertainty in the diagnosis of the same, one will rightly say that surgical interference can only prove favorable in a very few. It is, then, the task of our time to recognize those cases where surgical interference will be of benefit.

If we have here and there pushed too far for the limit of our science, we can, by further experience without feeling ashamed, set it back in order to place it on a still more firm basis.

IRIDIN IN THE VOMITING OF PREGNANCY.—At a recent meeting of the Paris *Société de Thérapeutique*, M. Gueneau de Mussy (*Progrès Médical*) spoke of the enthusiasm which he had found among the Edinburgh physicians in regard to the use of iridin in the treatment of the vomiting of pregnancy. Dr Berry Hart, who had used it in ten cases, without a single failure, gave it in the form of pills, each pill containing three grains of iridin with a sufficient quantity of conserve of roses. A pill is given every night, followed by a saline cathartic in the morning. Considering the histological change undergone by the liver during pregnancy, M. Gueneau de Mussy thought the action of the remedies probably depended on its cholagogue property.

[Provings of iris ver. (of which iridin or irisin is an oleoresinoid) demonstrate its value in gastric and intestinal glandular irritation. With us even small portions of blue flag produces free salivation and rising of acid water from the stomach.—EDS.]

THE PREVENTION OF BED-SORES.—A solution of gutta-percha in chloroform (four to thirty) is useful to protect the skin over projecting bones, and to prevent bed-sores in wasting diseases.

MISCELLANY.

—From an article on "The Principles and Practice of House-Drainage," by George E. Waring, Jr., in the November *Century*, we quote the following: "Houses that are perfect, even in the general arrangement and construction of their sanitary works, are extremely rare. Those which, having begun perfect, continue so under daily occupation, are still more rare. So true is this that it is sometimes asked if it is, after all, worth while to encounter the additional expense and the constant attention that perfection demands; whether, indeed, the world has not got on so well in spite of grave sanitary defects that it is futile to hope for an improvement corresponding with the cost in money and time. The most simple and efficient answer to this is that the world has not got on well at all, and is not getting on well; that among large classes of the population one-half of all the children born die before they attain the age of five years; that those who come to maturity rarely escape the suffering, loss of time, and incidental expense of unnecessary sickness; that the average age of all mankind at death is not one-half of what it would be were we living under perfect sanitary conditions; that one of the chief items of cost in carrying on the world, to say nothing of the cost of burying those who die, is that of supporting and attending the sick and helpless; that another great item is the cost of raising children to or toward the useful age, and then having them die before they begin to make a return on the investment; that the great object of a well-regulated life is to secure happiness for one's self and one's dependents, an aim which is crushed to the earth with every death of wife, or child or friend. There is a sentimental view, no less important, which need not be recited, but which is sufficiently suggested to the minds of all who have had to do with the sanitary regulation of houses by the frequency with which their services are called into requisition only when the offices of the undertaker have been performed. No cost and no care would be too great to prevent the constantly recurring domestic calamities which have had their origin, and which have found their development, in material conditions that a little original outlay and a constant watchful care would have prevented.

—The Surgeon-General of the Army in his annual report to the Secretary of War says that medical and hospital supplies were issued during the year to the amount of \$166,567 and the cost of the supplies required during the current fiscal year will probably exceed the amount by at least \$25,000. The total number of deaths among white troops was 250, or 12 per 1,000 of mean strength, an increase of two per 1,000 over the rate for the previous year. The number of white soldiers discharged for disability was 888. The total number of deaths among the colored troops was 22, or ten per 1,000 of mean strength, which is one per 1,000 lower than the death rate of the previous year. The number of recruits examined during the year was 6,263 white, 453 colored, and 239 Indian scouts. The number rejected was 2,041 white and 146 colored. The Surgeon-General expresses a hope that action may be taken during the coming session of Congress to provide a fire-proof building for the Army Medical Museum and library of the Surgeon-General's office, and that immediate steps be taken to secure a safe depository for those valuable collections, now in constant peril from the dangers which surround the present unsuitable building.

—Pinus canadensis is highly recommended in gleet.

—Dr. C. S. Verdi has resumed practice at No. 1410 Q street, N. W., Washington, D. C.

—Dr. Alexander Wood, the inventor of the hypodermic syringe, died recently at his home in Edinburgh.

—Dr. Emma L. Call is the first female to be admitted to membership in the Massachusetts Medical Society.

—Dr. Francis P. Hurd, deceased, has left \$50,000 with which to build a gymnasium at Phillips Exeter Academy.

—Dr. C. C. Graham, of Louisville, Ky., has just passed his 100th birth-day, and is said to be in excellent physical condition.

—Favoritism, regardless of merit is charged in the appointments to the House Staff of the Massachusetts General Hospital!

—The thirty-third semi-annual meeting of the Homeopathic Medical Society of the State of New York was held at Binghamton in September.

—For gall-stones, Dr. John Barclay, of Leicester, England, highly recommends two or three drops of chloroform three or four times daily, in any vehicle, persevered in for two periods of attack.

—Dr. Strong, Chief of Staff of the W. I. Hospital, reports 799 patients treated during the month of September, 1884, with 23 deaths, or 2.88 per cent. Whole number treated since January 1st, 1884, 4,432.

—The *British Medical Journal* recommends finely powdered cane sugar as a dressing for wounds, claiming that it is better, or at least equal to iodoform. It is a very old popular remedy in fungous granulations.

—A reward of \$100,000 is provided for in a bill recently introduced into the United States Senate to any person who shall discover the true germ of yellow fever, or any certain way of preventing or materially modifying the spread of the disease.

—The Medical Society of Northern New York held its thirty-third annual meeting in Albany, October 2, last. Dr. C. J. Farley was elected President, Dr. G. W. Stratton, V. P., and Dr. C. E. Gorham Secretary. The next meeting will be held in Troy, in May, 1885.

—The *Lancet* says it is sheer wantonness to throw away game because it happens to be a little "high." It will generally suffice to cleanse the game and wipe it quite dry with soft cloths, rubbing a little salt into the worst parts. "Game which is simply 'high,' without being putrid," says the writer, "is particularly easy of digestion, and of great value to invalids."

—**MALIGNANT GROWTH OF THE BLADDER REMOVED BY LAPAROTOMY.**—Prof. Guyon, in the case of a man 58 years of age, with haematuria, found a malignant neoplasm in the bladder, attached by a pedicle. By hypogastric incision the bladder was opened and a growth the size of a small hen's egg removed. A Lister dressing and drainage-tubes were employed. The patient recovered.

—It is a singular fact that we are indebted to Pompeii for the great industry of canned fruits. Years ago, when the excavations were just beginning, a party of Cincinnatians found, in what had been the pantry of a house, many jars of preserved figs. One was opened, and they were found to be fresh and good. Investigation showed that the figs had been put into jars in a heated state, an aperture left for the steam to escape, and then sealed with wax. The hint was taken, and the next year fruit-canning was introduced into the United States, the process being identical with that in vogue at Pompeii twenty centuries ago.